Yukon Health Status Report

Focus on Substance Use

2015

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Yukon
Health and Social Services

Foreword from the Chief Medical Officer of Health

The faces of substance use in Yukon are as varied as those that you see every day, wherever you reside in our beautiful territory. If I asked you to think about the harms of substance use, you might think immediately of the down and out alcoholic shivering in the cold. And yes, that is a true picture of many individuals in our territory, often living storied and tragic lives. But that portrait is far from complete. Picture also the following: a well-to-do government employee with the beginnings of liver disease from habitual wine drinking every day after dinner. A young woman with depression who can't quit smoking despite many attempts. A family recovering from the loss of a loved one due to a crash with an impaired driver. A high school student who finds herself dependent on marijuana every day in order to get to school. How many of these faces do you recognize? These people represent real Yukon stories and illustrate how the problematic use of substances can have far-reaching impacts to individuals, their families, communities, and society at large.

With this theme in mind, I am pleased to present the 2015 Health Status Report. In addition to the traditional overview of the health status of our population in Part 1, we are taking an in-depth look in this report at the full spectrum of substance use in Yukon. Thus in part 2 of this report, you will find a broad range of data that illustrate the prevalence and impacts of substance use and addictions in Yukon. By examining the data from Yukon and Canadian sources as well as reviewing service provisions and some of the more recent literature, I hope to be able to demonstrate how our understanding of substance abuse and addiction issues continues to deepen and evolve, and show where we still need to improve what we are doing to address the problem.

If I could choose one Yukon resident who illustrates so many of the realities behind addiction it would have to be Andy Nieman, who has written his memoirs in the book "Free Man Walking" released only last year. Andy was born into an alcoholic home in Whitehorse and endured years of abuse both at home and in the residential school system. At a young age, he ran away and began life on the streets, eventually turning to a life of crime and substance abuse, dogged by constant thoughts of suicide. Andy had spent over ten years behind bars and another ten struggling with addiction and homelessness in Vancouver's Downtown Eastside when, in the midst of this unimaginable suffering, he found the strength and resilience to find a path of healing. Having established his road to recovery, Andy eventually went on to earn a university degree in social work, establish and run his own therapeutic counselling practice, was ordained as a Minister with the United Pentecostal Church, and become an Officer of the

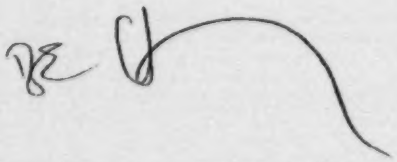
Yukon Legislative Assembly as Yukon's first Child and Youth Advocate. Today, as well as being a respected counsellor, Andy is a poet, husband, stepdad, grandfather, and an eloquent spokesperson for trauma, healing, and the First Nations historical perspective.

Andy's remarkable story reflects the complex, dynamic and multi-dimensional nature of substance use and addiction issues as we have come to understand them today. We now know that a host of factors can contribute to the development of substance problems. Some of these risk factors are outside the control of the individual, such as the experience of parental neglect or abuse in childhood, while others are broader, systemic problems of society, such as poverty and homelessness. This speaks to the need for a coordinated, system-level approach to prevention - interventions that not only address substance use at the individual level but also address the bigger picture: improving the social environment to ensure healthy and supportive early life experiences, and appropriate supports that carry on into adult life.

What I like most about Andy's story is that it is, above all, one of enduring hope. Physically, mentally, emotionally, and spiritually, he found himself on the very edge - that edge where dying seems preferable to living - and yet, with a little help from his friends, he still found within him the strength and resilience to turn his life around. Addiction is no longer seen as a personal failure but as a chronic disease. The ability to maintain hope, to persevere and, with the right supports, to pick yourself up again is something that we all need to recognize and strengthen, whether as someone suffering from problematic use, or as a vital partner, family member, or other supporting person.

While this 2015 Yukon Health Status report paints a picture of some of the challenges we face, it also shows us where we can build on our strengths and add to some of the remarkable achievements that have already been made.

I hope that this report will serve not only to inform people on the background of addictions and substance use today in Yukon, but serve as a valuable reference for years to come as we continue to acknowledge and tackle this pressing issue.



Brendan E. Hanley, MD CCFP(EM) MPH
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Introduction

Every three years, the status of health and well-being among Yukoners is examined in the *Yukon Health Status Report* series. By collecting and interpreting information, these reports shed light on current health issues, which in turn allows decision-makers to establish evidence-based policies and programs that further the health and prosperity of our territory.

This report consists of two parts. Part 1 provides an overarching view of health status and the burden of disease in Yukon. Life expectancy, mortality, chronic and communicable disease, injury, and mental well-being are explored alongside behavioural and societal factors that contribute to our health status.

In Part 2 of this report, we turn our focus to a health issue of particular relevance in our territory: substance use and addictions. The magnitude of this challenge continues to build, and its consequences are felt sorely throughout our communities. In order to take meaningful action, it is vital that this issue be properly contextualized within health, rather than being seen as purely a criminal justice concern.

It is, unfortunately, more common than not that people suffering from addictions have had an adverse, traumatic experience or experiences in early life. Gabor Maté in his book *In the Realm of Hungry Ghosts* outlines the sad trajectory of addictions.[2] When speaking in Whitehorse in the spring of 2015 at the Vulnerable People at Risk Forum*, Dr. Maté remarked how rarely he had seen someone addicted who had not been traumatized as a child. The risk of addictions goes from high to astronomical when multiple toxic stresses in childhood–such as neglect, abuse, witnessing violence in the home, or poverty–are present.

As stated by Dr. Robert Anda, co-author of the Adverse Childhood Experiences study, "When people are having problems, it's time to stop asking what's wrong with them, and start asking what happened to them." [3]

By taking a comprehensive look in this report at the current state of substance use and addiction in our territory and its implications for health, we can begin to shift our philosophies and practices to better align with the needs of Yukoners.

Ultimately, the *Yukon 2015 Health Status Report* aims to provide readers with a concrete understanding of health and well-being as it stands in our territory. Hopefully, this knowledge will be the foundational element of broader discussions and calls to action as we work towards both improving the quality of life of our people and building a strong and supportive health care system.

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* http://whitehorse.ca/departments/economic-development/vulnerable-people-at-risk-initiative/vulnerable-people-forum

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Finally, I would like to thank Lori Duncan, Director, Health and Social and Helen Stappers, Regional Health Survey/Regional Education, Employment and Early Childhood Development Data Analyst, from the Council of Yukon First Nations for their patient reviewing of the First Nations elements throughout the report.

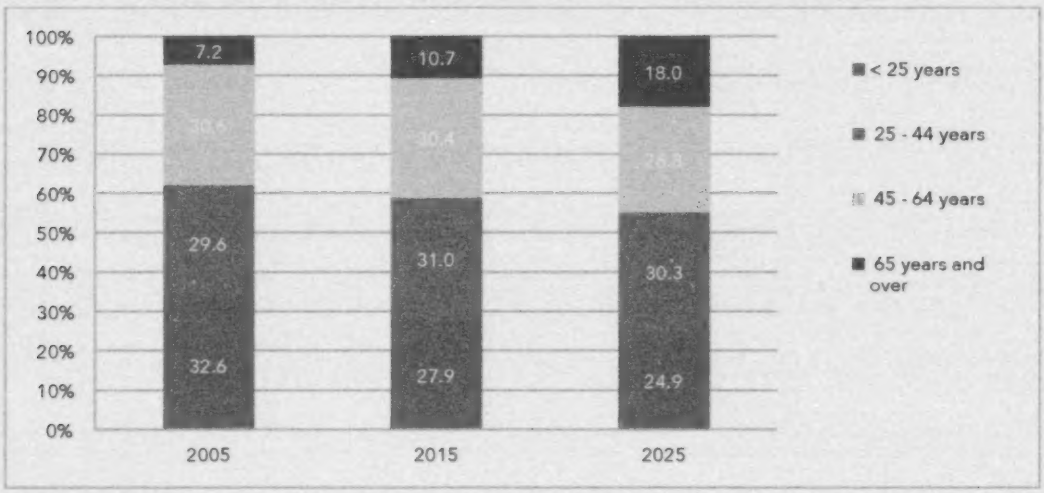
Part 1: Who Are We and How Are We Doing?

Demographic Overview

As of March 2015, an estimated 37,178 people were Yukon residents–a one percent increase from the previous year. Yukon's population has increased every year since 2005, for a total increase of nearly 20% over the last decade. If trends continue, recent projections suggest that the population could grow to over 43,000 people by the year 2025.

The population is not only growing, but also aging, with large increases in the population ages 65 and over. Projections by the Yukon Bureau of Statistics suggest that by 2025, the population 65 and over could increase from about 11% of the territory's population to about 18%, as shown in Figure 1. At the same time, the population under age 25 is projected to decrease from about 28% to about 25%. This trend is similar to what is happening in other parts of Canada, where the older segments of the population are growing the most quickly.

Figure 1: Distribution of Yukon Population, 2005, 2015 and 2025



Sources: 2005 estimates: Yukon Bureau of Statistics (2006)[4]; 2015 estimates: Yukon Bureau of Statistics (2015)[5]; 2025 projected estimates: Custom tabulation by Yukon HSS.

Notes: Due to methodological differences, neither the 2005 estimates nor the 2025 projections are strictly comparable with 2015. The data is best used to illustrate an overall trend rather than for comparative point estimates.

Whitehorse continues to hold the bulk of the territory's population, with more than three-quarters of Yukoners living in Whitehorse or a surrounding area in 2015. Whitehorse has also seen the largest population influx in recent years. However, as a percentage of the population, certain small communities seem to be making substantial gains. Both Pelly Crossing and Tagish had population increases of over 5% between 2013 and 2014, compared to 1.9% in the capital area. Other communities saw shrinking populations over that period, with decreases of 5.7% in Beaver Creek and 8.7% in Destruction Bay.

Table 1: Population Distribution in Yukon Communities, March 2015

	NUMBER of people	PERCENT of population			
	Total population	Ages 0-24	Ages 25-44	Ages 45-64	65 and over
Yukon	37,178	27.9	31.0	30.4	10.7
Beaver Creek	122	27.0	30.3	28.7	13.9
Burwash Landing	107	22.4	30.8	29.9	16.8
Carcross	491	26.3	29.1	30.3	14.3
Carmacks	554	34.7	28.3	27.6	9.4
Dawson City	2,038	23.7	33.5	32.9	9.9
Destruction Bay	46	17.4	23.9	39.1	19.6
Faro	371	21.6	21.3	38.8	18.3
Haines Junction	899	24.2	25.3	35.5	15.0
Mayo	480	25.2	28.5	32.3	14.0
Old Crow	253	29.6	29.2	30.0	11.1
Pelly Crossing	385	32.7	31.2	25.2	10.9
Ross River	402	29.9	30.3	31.3	8.5
Tagish	260	13.8	16.9	45.4	23.8
Teslin	476	23.1	26.3	35.9	14.7
Watson Lake	1,469	26.3	25.1	34.0	14.6
Whitehorse area	28,763	28.6	31.9	29.5	10.1
Other	62	8.1	17.7	64.5	9.7

Source: Yukon Bureau of Statistics (2015) [5]

While a number of communities, such as Whitehorse, Old Crow and Ross River, are fairly similar to the territory as a whole in terms of age composition, there are some notable differences in other communities. For example, as shown in Table 1, nearly one-quarter of residents in the community of Tagish are ages 65 or older, compared to only about 10% in the capital. Other communities with a large proportion of seniors include Destruction Bay and Faro.

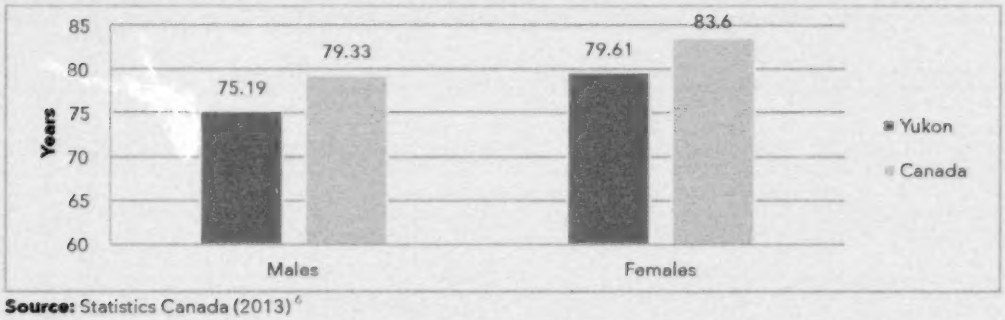
The highest proportion of under-25-year-olds was found in Carmacks in 2015, where nearly 35% of residents fall into this age group; and in Pelly Crossing, with almost 33% of the population comprising youth under 25.

Life Expectancy and Mortality

Life expectancy tells us how many years, on average, a person may be expected to live if current trends in mortality continue over that individual's lifetime. Based on trends in mortality for Yukon, a male baby born in 2009-2011 could expect to live an average of about 75 years, while females could expect to live an average of nearly 80 years. This difference is not limited to Yukon; in most areas in Canada as well as globally, males have a shorter life expectancy than females.

As shown in Figure 2, both males and females in the territory had a shorter projected life expectancy at birth compared to the Canadian average: about four years less than the national life expectancy. Multiple factors may contribute to the gap in life expectancy between Yukon and Canada, such as our higher rates of injury, and harmful behaviours such as smoking and problematic substance use.

Figure 2: Life Expectancy at Birth, 2009-2011 (Three-Year Average)



Source: Statistics Canada (2013)[6]

A second useful measure of life expectancy describes how much longer, on average, someone who has attained age 65 can expect to live. This is shown in Figure 3. A Yukon man who is age 65 as of 2009-2011 can expect to live 16 more years, to the age of 81. Women age 65 can expect to live to age 83. In part, this difference in life expectancy between those born now and those who are age 65 now reflects the potential for premature deaths among younger age groups.

Figure 3: Additional Years of Life Expected at Age 65, 2009-2011 (Three-Year Average)

Source: Statistics Canada (2013)[4]

Mortality rates tell us about the most common causes of death and how frequently they occur. Table 2 shows the age-standardized mortality rate for the leading causes of death in Yukon. Due to Yukon's small population and small number of deaths, the table provides an annual average for the ten-year period of 2002 to 2011.

The total age-standardized mortality rate was substantially higher for Yukon than for Canada as a whole: 758 deaths per 100,000 population per year in Yukon vs. 544 for Canada (see Box 1 for an explanation of age-standardization). For both Yukon and Canada, the top causes of death were similar: cancer was the top cause, followed by heart disease, injuries, cerebrovascular diseases (such as stroke) and chronic lower respiratory diseases (such as emphysema). The mortality rate for all these diseases was substantially higher in Yukon than in the rest of Canada. Injuries in particular showed a stark difference, with Yukoners nearly three times as likely to have died of an unintentional injury between 2002 and 2011, compared to Canadians overall.

Box 1: What is an age-standardized mortality rate?

A mortality rate measures the number of deaths occurring in a given population or region, and is usually reported as a rate per 100,000 population. Mortality rates are therefore useful to compare patterns of disease or death between different regions.

However, if the age distribution of two populations is quite different–for example, one region has a much higher proportion of seniors–a comparison of mortality rates may be less meaningful. Simply due to the older population, a higher mortality rate would be expected.

To eliminate this problem, rates are often reported as "age-standardized". This means that the rate has been changed in one region to reflect what it would have been, if that region had the same age structure as the comparison region. This allows a fair comparison of the mortality rates between different areas. Because any differences in rates are not due to different age structures in the population, but to differences in other factors such as the number of people developing disease, the severity of illness, or the effectiveness or availability of treatment.

Table 2: Age-Standardized Mortality Rates for Top 10 Leading Causes of Death, 2002-2011 (10-Year Average)

	Yukon		Canada	
	Rate per 100,000 population per year	**Rank**	**Rate per 100,000 population per year**	**Rank**
Total (all causes of death)	757.79		543.73	
Cancer	238.24	1	166.53	1
Heart disease	137.84	2	114.15	2
Unintentional injuries	69.36	3	25.21	4
Cerebrovascular diseases	46.94	4	31.39	3
Chronic lower respiratory diseases	40.97	5	23.88	5
Diabetes mellitus	20.95	6	17.46	6
Alzheimer's disease	13.56	7	12.30	7
Suicide	11.95	8	10.63	9
Influenza and pneumonia	9.70	9	11.57	8
Sepsis	9.28	10	4.35	12

Source: Statistics Canada (2014)[7]

Notes: Cerebrovascular diseases include causes such as cerebral thrombosis (stroke), cerebral embolism, cerebral hemorrhage and aneurysms. Chronic lower respiratory diseases include asthma, chronic obstructive pulmonary disease (COPD) and emphysema.

The mortality rate is quite different for males and females in Yukon. The age-standardized mortality rate for the 2002-2011 period was 948 for males, but only 599 for females in Yukon. Sepsis and chronic liver disease/cirrhosis were among the top 10 causes of death for females in the Yukon but not for females in the rest of Canada. On the other hand, suicide and kidney disease were among the top causes of death for Yukon males, and for both males and females nationally, while these didn't appear among the top 10 for Yukon females.

Mortality rates alone tell only part of the story. Statistics may tell us that people are more likely to die in a certain region and of a certain cause–but the reasons behind those differences can vary and are also important. The likelihood of contracting or dying from a specific illness or condition may be influenced by a wide range of factors such as lifestyle choices, environmental conditions and access to diagnosis and treatment, among others.

Chronic Conditions

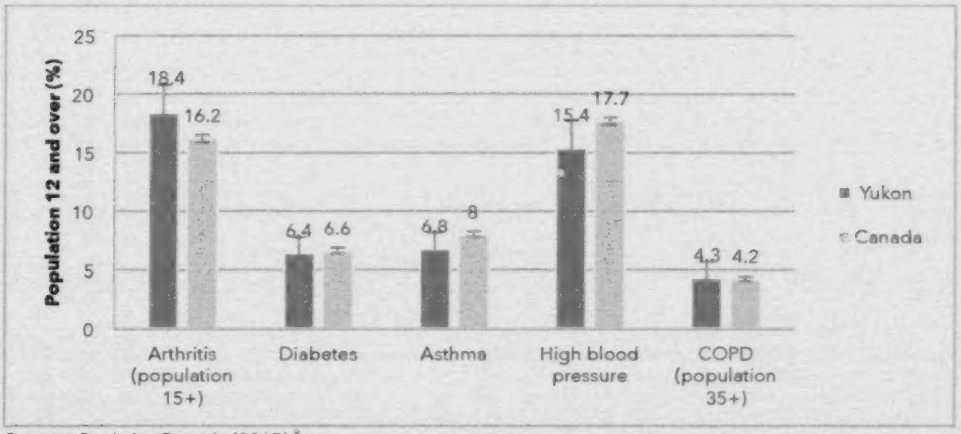
Chronic conditions are diseases that last for months or years, such as diabetes, heart disease or asthma. In Canada, chronic conditions are the leading causes of death and disability in individuals, and are also very costly to the health care system. With populations aging across the country, and a higher prevalence of chronic conditions among older age groups, preventing, managing, treating and monitoring chronic conditions is of significant and growing interest to most Canadian jurisdictions.

There are different ways to measure how much of the population has a given chronic condition. Often, telephone surveys are used to ask people about what conditions they have had diagnosed. Another way is to count hospital and physician visits for select conditions. Both methods can be useful; but they can also provide conflicting results.

Figure 4 shows results from the Canadian Community Health Survey (CCHS), a survey that asked a sample of the population in both Yukon and Canada whether they had been diagnosed with any of several common chronic conditions. Two important messages arise from this figure. First, that a substantial portion of the population in both Yukon and Canada are burdened with one or more chronic conditions, such as arthritis, diabetes, asthma or high blood pressure. In addition to the chronic conditions highlighted in Figure 4, back problems (reported by 20.8% of Yukoners ages 12 and over) and migraines (11%) were fairly common among Yukon residents in 2013/14, while conditions including bowel disorders (4.5%); ulcers (3.7%); heart disease (3.7%) and scoliosis (2.9%) were more rarely reported.[8]

The second important message is that the rate of many chronic conditions was similar for both Yukon and Canada as a whole. This represents a shift from several years earlier: in 2007/08, Yukon had substantially lower rates of arthritis, diabetes and high blood pressure than the rest of Canada. The reasons for this shrinking gap have not been analyzed, but could include changes in the existing population, health characteristics of people moving to or from Yukon, or increased access to and diagnosis by health professionals.

Figure 4: Percent of Population Reporting Selected Chronic Conditions, 2013/14



Source: Statistics Canada (2015)[7]
Notes: Caution is advised in drawing conclusions based on the COPD estimate, due to sampling variability.

The Canadian Chronic Disease Surveillance System (CCDSS) estimates rates of chronic conditions based on hospital and physician visits. For chronic obstructive pulmonary disease (COPD), the CCDSS rates are much higher than the self-reported rates from the CCHS: 14.5% in Yukon and 9% nationally, vs. the 4.3% and 4.2% shown in Figure 4.

Asthma, on the other hand, had a lower rate based on the CCDSS compared to the self-reported rate, with only an estimated 3.2% of Yukoners identified as having asthma based on hospital and physician visits, vs. 6.8% in Figure 4.

Managing Chronic Conditions

Many chronic conditions may be managed through effective primary care, self-management tools and techniques, or in some cases, surgery and other medical interventions.

Over the past several years, select physicians and primary health care nurses in Yukon have offered support and chronic disease self-management tools for individuals with diabetes, COPD and/or heart disease risk factors through the Chronic Conditions Support Program. One-on-one counselling and monitoring and group-based educational opportunities have been delivered in Whitehorse and other communities.

In addition, the program has sponsored several campaigns aimed at detecting the presence of select chronic conditions. Through the program, more than 1,600 tests for hypertension were provided to Yukoners through blood pressure clinics in Whitehorse and select rural communities between 2013 and 2014. Approximately 10% of these tests indicated the person

tested had high blood pressure, providing the opportunity for those individuals to make healthy lifestyle changes before the hypertension became more severe. Over 200 spirometry* tests for COPD were also offered through the program in both Whitehorse and rural communities.

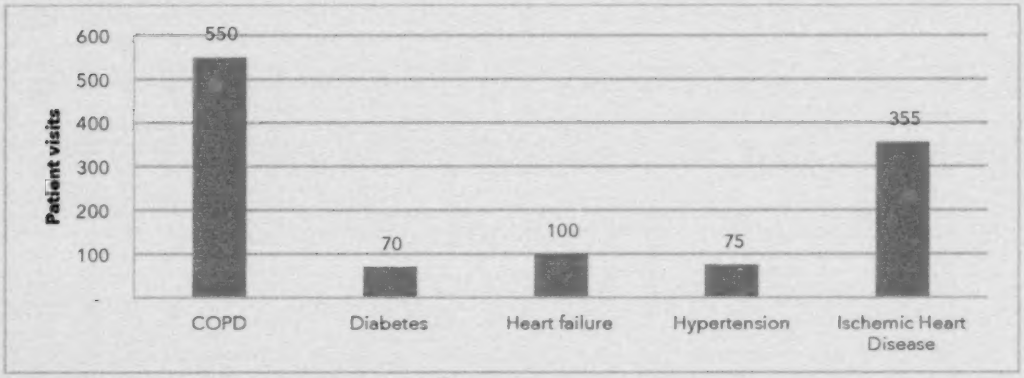
The program appears to be successful: client and provider feedback have documented improvements in health and/or positive experiences of clients. As the program evolves, we expect to continue to learn from the results of diagnostic activities and the outcomes of clients, leading to further improvements in chronic disease management and quality of life for residents of Yukon.

Physician visits

While having access to primary care may not prevent hospitalization for chronic conditions, some level of engagement with a provider may be an important step toward accessing appropriate supports and tools, as well as treatment.

Figure 5 shows the number of patients who visited physicians for selected chronic conditions in 2014/15. The figure shows clearly that COPD and ischemic heart disease were the two conditions that appeared to require the most community-based care. Through the targeted efforts of primary care providers, along with ongoing monitoring to ensure those efforts are having the intended impact, we hope to see reductions in chronic disease-related hospitalizations and improved quality of life for those with chronic conditions.

Figure 5: Patients Visiting Physicians for Selected Chronic Conditions in Yukon, 2014/15



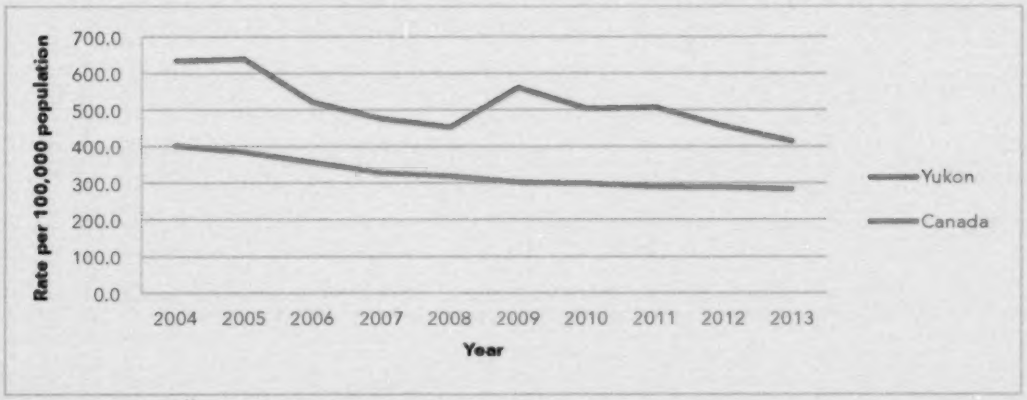
Source: Yukon Health and Social Services (2015) [10]

*Spirometry is a test used to assess how well your lungs work by measuring how much air you inhale, how much you exhale and how quickly you exhale.

How successful is the use of primary care for treating and managing chronic conditions? A measure called the Ambulatory Care Sensitive Conditions (ACSC) rate tells us how many patients are hospitalized for conditions that potentially could have been managed in the community. While some hospitalizations are unavoidable, a high ACSC rate is considered to reflect problems in obtaining appropriate access to primary care.

Yukon's ACSC rate is, and historically has been, higher than Canada's, sitting at 414 hospitalizations per 100,000 population in 2013, compared to 283 nationally. However, both Yukon and Canada have seen overall decreases in the rate since 2004, as shown in Figure 6. This decrease over time shows the success that many jurisdictions, including Yukon, have experienced in finding ways to ensure chronic conditions and other health issues are managed outside of hospital settings.

Figure 6: Age-Standardized Ambulatory Care Sensitive Conditions Rate, 2004-2013



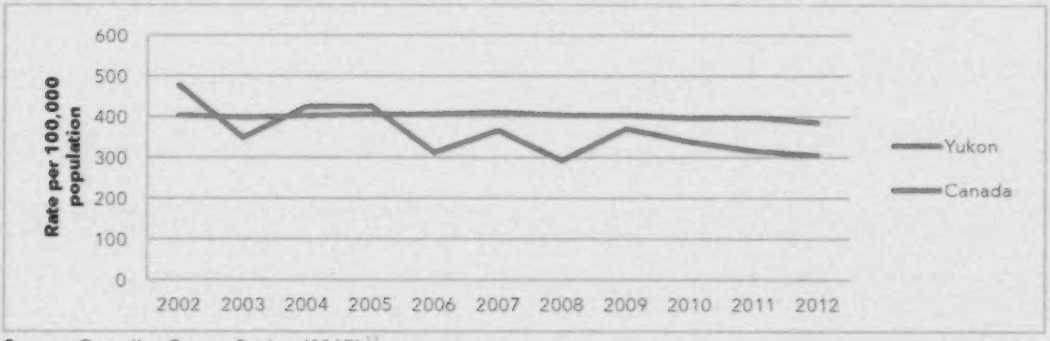
Source: CIHI (2015) [11]

Spotlight on Cancer Incidence

Cancer is the leading cause of death both nationally and across the territory, and a challenging chronic illness to face for those who are diagnosed. Cancer therefore continues to be a prominent concern for both Yukon residents and the health system.

As shown in Figure 7, Yukon has had a lower rate of cancer incidence–or new cancer cases–than Canada as a whole. This continues in 2015, with a rate of 340.1 new cancer cases per 100,000 population in Yukon vs. 398 across Canada. This is in contrast to the mortality rates associated with cancer, which has been higher in the territory than nationally. We continue to explore reasons behind this contrast.

Figure 7: Age-Standardized Cancer Incidence Rates, 2002-2012



Source: Canadian Cancer Society (2015) [12]

More than half of new cancer cases in Yukon from 2001 to 2010 were associated with one of five primary sites - colon/rectum; breast; lung/bronchus; prostate and bladder. These were also the top five sites associated with new cancer cases nationally - again, accounting for well over half of the total.

Figure 8: Distribution of New Cancer Cases in Yukon by Primary Site, 2001-2010

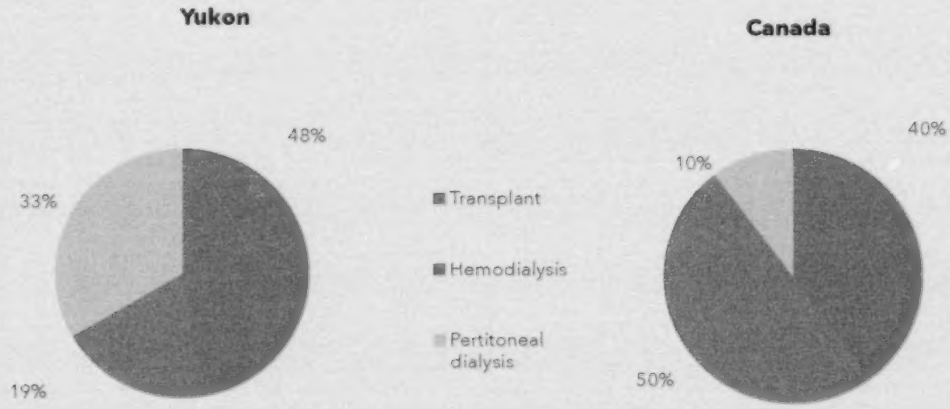
Source: Statistics Canada (2014) [17]

Spotlight on Renal (Kidney) Disease

Renal disease, also known as kidney disease, occurs when the kidneys lose the capacity to adequately filter waste products from the blood. This can happen very suddenly, or can come on slowly over time. Renal disease is very serious, and requires intensive, ongoing medical intervention, with end-stages requiring dialysis or a kidney transplant. While relatively rare, it is a devastating condition that has an enormous impact on patients' quality of life.

As of 2011, there were 21 cases of end-stage renal disease in Yukon. Nearly half of these patients had received a kidney transplant, one-third were receiving peritoneal dialysis, and one-fifth were on hemodialysis. While in most parts of Canada, dialysis is most commonly offered in hospitals or care centres, all dialysis offered within Yukon is home-based. Patients needing in-hospital dialysis services must travel to southern provinces for these services.

Figure 9: End-Stage Renal Disease by Type of Treatment, 2011



Source: CIHI (2015) [14]

More information about kidney disease can be found by visiting HealthLink BC at https://www.healthlinkbc.ca/healthtopics/content.asp?hwid=aa65427.

Communicable Diseases

Communicable diseases, also known as infectious diseases, can be transmitted directly or indirectly from one person to another, or from an insect, environmental or animal source to a person. Some of these illnesses may be preventable through immunization, while others may be avoided through risk-reducing behaviours, such as safe sexual practices, hand washing and safe food handling.

Those communicable diseases deemed most significant to public health are monitored by Yukon Communicable Disease Control. This monitoring can detect and contain outbreaks of illness when they occur, and also helps to determine where additional efforts in vaccination, education and prevention may be useful.

Diseases transmitted by direct contact and respiratory routes include the common cold, influenza, pneumonia and strep throat. These diseases are spread through the air or via contaminated surfaces. Table 3 shows the number of cases per year for four of the more serious respiratory diseases.

Influenza and respiratory syncytial virus (RSV) are typically seasonal illnesses, arriving in late fall or early winter and ending in the spring. Of all the reportable respiratory infections, influenza is the most common in Yukon, and RSV the second most commonly reported. The number of RSV cases identified may appear high because it is routinely included in laboratory testing for influenza. As reflected in the numbers below, influenza seasons can vary dramatically in their onset, intensity, and duration. In recent years, influenza activity has roughly reflected overall flu activity in Canada.

While case numbers appear relatively small, the territories have the highest rates of tuberculosis (TB) in Canada, and rural Yukon populations are disproportionately affected. The average incidence rate for Yukon from 2006 to 2013 (11.4 per 100,000 population) was more than double the national rate over the same time period (4.8 per 100,000). In recent years, TB incidence has been roughly equally divided between recent immigrants to Canada and Yukon-born individuals.

Table 3: Cases of Reportable Respiratory Infections in Yukon

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Influenza	38	31	19	154	10	77	81	147	91
RSV	n/a	n/a	31	<5	12	12	54	37	30
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Streptococcal disease, invasive group A	0	0	<5	0	<5	0	0	<5	<5
Tuberculosis	<5	<5	8	<5	6	<5	<5	<5	<5

Source: Yukon Communicable Disease Control (2014) [15] Tuberculosis data based on data published by the Public Health Agency of Canada: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/15vol41/dr-rm41s-2/assets/longdesc/longdesc-eng.php#surv-1-3 and http://www.phac-aspc.gc.ca/tbpc-latb/pubs/tbcan12/app-ann-1-eng.php#t1a

Note: Small case numbers are noted as <5 to avoid potential identification of cases.

Enteric, food and waterborne diseases include illnesses such as Hepatitis A, Giardia, and E. coli infections. These illnesses are transmitted between people (or from animals to people) when there is contact with infected fecal matter, generally through the means of infected food or water. As with respiratory diseases, hand-washing is helpful in reducing transmission. Sanitary food handling practices are also very important.

Table 4 shows the number of cases per year for a number of these illnesses. From 2006 to 2013, giardiasis comprised more than 40% of food and water-borne illness in Yukon. This was primarily associated with the consumption of unsafe or untreated drinking water, such as water consumed directly from lakes or streams. Salmonellosis was the second most frequently reported infection across the territory, with campylobacteriosis a close third.

Table 4: Cases of Reportable Food and Water-Borne Disease in Yukon

	Cases over the 5-year period of 2010-2014	Mean annual rate per 100,000 population
Campylobacteriosis	25	14.0
Cryptosporidiosis	<5	n/a
Giardiasis	54	30.1
Hepatitis A	<5	n/a
Salmonellosis	29	16.2
Verotoxigenic E.Coli Infection	12	n/a
Shigellosis	<5	n/a
Yersiniosis	18	n/a

Source: Yukon Communicable Disease Control (2014) [15]
Note: Rates only provided where numbers are sufficient to allow a meaningful interpretation

Vector-borne and zoonotic diseases are transmitted from insects or animals to humans. While residents are not exposed to malaria within Yukon, those who travel internationally to certain

regions may be exposed to the illness. Between 2006 and 2013, five cases of malaria were reported in Yukon.

Rabies is also not known to be present in Yukon; however, given the prevalence amongst certain animal populations in neighbouring jurisdictions, it is not unexpected that an animal with rabies will be found in the territory at some point. From 2011 to 2013, the Department of Health and Social Services conducted were 98 investigations into potential rabies exposure in people, and three cases in animals–all of which were negative for the rabies antigen.

Sexually Transmitted Infections (STIs) include diseases such as chlamydia, gonorrhea and syphilis. Safe sex practices are the best way of preventing the transmission of STIs, which can have severe consequences including sterility.

Chlamydia continues to be the most commonly diagnosed STI in both Yukon and Canada. The chlamydia rates in Yukon are much higher compared to Canada as a whole, occurring at 2.5 times the national rate. In Yukon, female youth ages 15-19 have the highest rate of new cases, while nationally, 20-24 year old females had the highest rate of new cases. Gonorrhea is the next most commonly reported STI in Yukon, though the rate of new cases has decreased by 20% since 2006, after peaking in 2010. There was a notable jump in the number of cases that occurred in 2014, and this outbreak continued to escalate through 2015. The majority of individuals affected have been in the 15-to-24 age range, prompting a social media campaign known as "#NBD" (No Big Deal), aimed at making young people more aware of STIs and the availability of testing and treatment (http://www.bettertoknow.yk.ca/quiz.php). Fortunately, despite outbreaks elsewhere in Canada, syphilis remains a sporadic disease in Yukon with fewer than 5 cases reported over the 2010-to-2014 period.

Table 5: New Cases of Common Sexually Transmitted Infections in Yukon

	2010		2011		2012		2013		2014	
	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Chlamydia (genital)	230	657.4	210	597.0	176	490.8	239	654.3	210	572.7
Gonorrhea (genital)	31	88.6	7	19.9	9	25.1	10	27.4	48	130.9

Source: Yukon Communicable Disease Control (2014) [15]

Diseases preventable by immunization include mumps, pertussis (whooping cough), measles, meningitis. These diseases are highly infectious and can have devastating consequences, including death. Where there are pockets of unvaccinated people, outbreaks can more easily occur. For example, experts estimate that a community is best protected from measles when the immunization uptake is 95% or higher, and most other childhood immunizations require at least 90% uptake for adequate community protection.

Measles outbreaks in other parts of North America and the world have drawn media attention in recent years. In Yukon, however, there have been no reported cases of measles since at least 1998. Our largest outbreak of vaccine-preventable illness in recent years was pertussis, for which 59 cases were reported in 2012, or 94% of all the cases seen over five years. The outbreak primarily infected those between the ages of 10 and 19 and appears to have been directly linked with an outbreak in British Columbia.

Table 6: New Cases of Diseases Preventable by Immunization in Yukon

	Total number of cases, 2010-2014
Measles	0
Meningococcal disease, invasive	<5
Mumps	<5
Pertussis	63
Pneumococcal disease, invasive	18

Source: Yukon Communicable Disease Control (2014) [15]

Chronic infectious disease refers to persistent conditions which are communicable in nature and are able to produce serious illness in another person, such as HIV and some types of hepatitis.

Hepatitis C is the most common reportable chronic infectious disease in the territory, and occurs at a rate more than twice the national average. However, the number of newly identified cases decreased by 63% between 2006 and 2013. All cases of Hepatitis C identified in this time period were chronic infections rather than acute Hepatitis C virus (HCV) cases, suggesting that the illness was contracted at least six months prior to diagnosis. Injection drug use is the key risk factor for HCV infection. However, with the majority of new diagnoses occurring in older adults 40 to 59 years old–and for many of whom injection drug use was in the distant past–both current and past behaviours could contribute to risk. Observers comparing to previous reports will note an increase in the number of Hepatitis B cases beginning in 2010. However, Yukon Communicable Disease Control notes that that this increase is most likely due to a change in how Hepatitis B is reported, rather than a true difference in numbers of new cases.

Table 7: Newly-Reported Cases of Chronic Infectious Diseases in Yukon

	2010	2011	2012	2013	2014	Total cases 2010-2014	Mean annual rate per 100,000 (2010 - 2014)
Hepatitis B (HBV)	5	5	<5	6	6	25	14.0
Hepatitis C (HCV)	21	22	22	16	19	100	55.8
Human Immunodeficiency virus (HIV)	<5	<5	<5	<5	<5	7	N/A

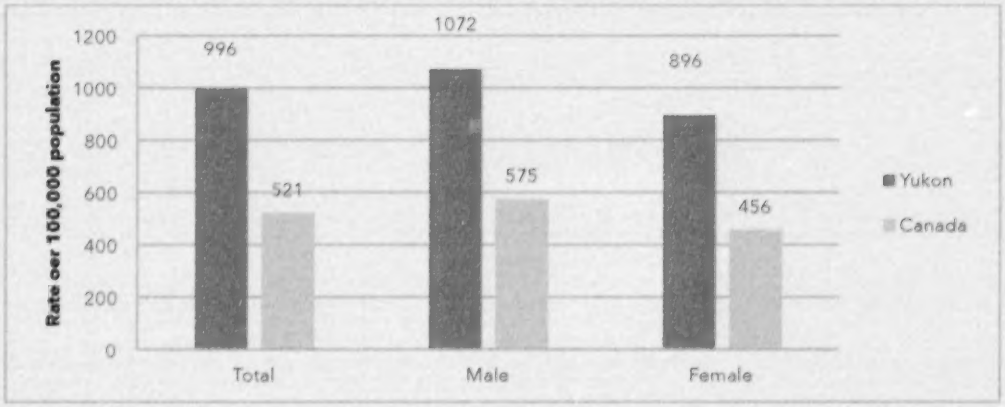
Source: Yukon Communicable Disease Control (2014) [15]

Injuries

It has long been documented that Yukon's rate of injury hospitalization is much higher than the Canadian average. While the rate of injuries in the territory has generally been decreasing since hitting a peak in 2007, we continue to surpass the national rate of injury hospitalization. As shown in Figure 10, there were 996 people in Yukon hospitalized per 100,000 population in 2013, compared with 521 nationally. There was a substantial difference between males and females, with 1,072 males vs. 896 females requiring hospitalization.

Death from unintentional injury is almost three times higher in Yukon than the Canadian average.

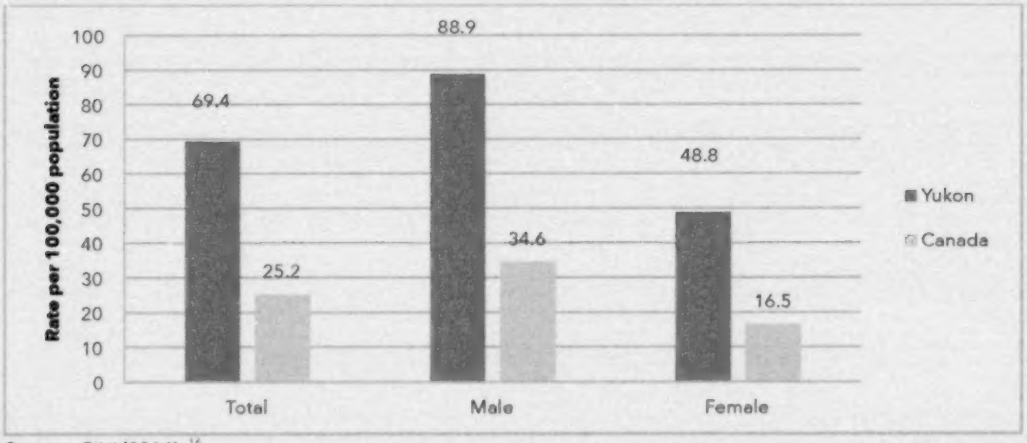
Figure 10: Age-Standardized Injury Hospitalization Rate, 2013



Source: CIHI (2014).[16]

The higher rates of injury in Yukon vs. the rest of Canada are supported by injury mortality data as well. Unlike hospitalization, which can be affected by access to other types of care in remote or urban areas, mortality is not tied to hospital admission practices. As shown previously in Table 2, death from unintentional injury is almost three times higher in Yukon than the Canadian average. As with hospitalizations, males in Yukon were far more likely than females to die from their injuries, as shown in Figure 11.

Figure 11: Age-Standardized Injury Mortality Rate, 2002-2011 (10-year Average)



Source: CIHI (2014).[16]

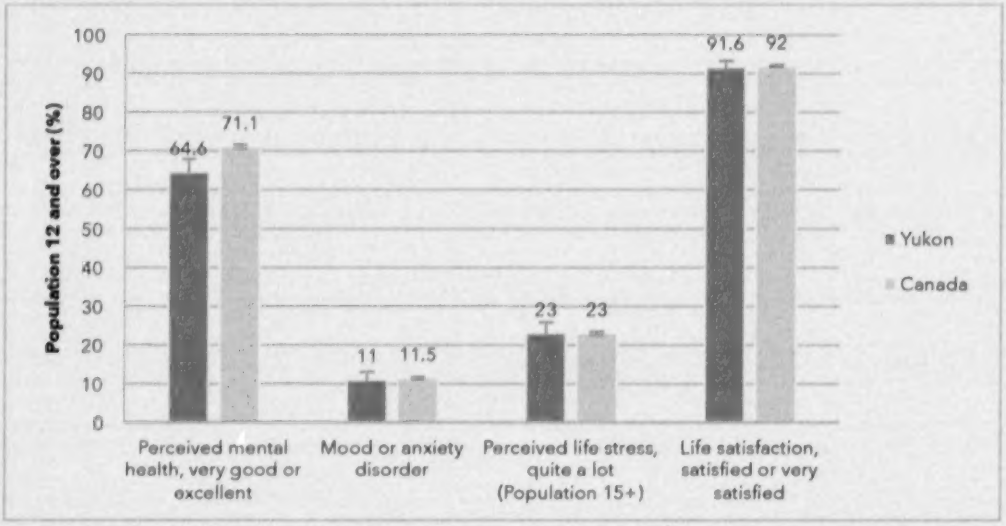
These rates translate to a great deal of personal tragedy. Between 2002 and 2011, nearly 200 Yukon residents died of injuries. Vehicle collisions, burns, poisoning, drowning and falls were all significant causes of injury death in the territory. Our high injury rates appear to reflect both positive and negative aspects of our northern lifestyle. On the one hand, we have high levels of physical activity and being out on the land, which confers many benefits, albeit with some inherent risks. On the other hand, our high rates of serious, preventable injury beg further analysis as to what lifestyle elements are contributing. Given what we will be discussing in Part 2, it is almost sure that high levels of harmful drinking, drug use and impaired driving play a substantial role in injury causation.

Mental Well-being

Mental well-being is important in every facet of our daily lives. It affects how we feel, think, act, and interact with the world around us. Mental well-being is more than the presence or absence of a specific mental illness. It reflects our broader state of mind: our ability to cope with life stressors, contribute to our community, and realize our potential in life. As stated by the Canadian Mental Health Association, "Good mental health isn't about avoiding problems or trying to achieve a 'perfect' life. It's about living well and feeling capable despite challenges." [17]

An estimated 65% of Yukoners reported very good or excellent mental health in 2013/14, compared to 71% nationally, as shown in Figure 12. This number represents a decrease from 73% across Yukon that was reported in for 2009/10, and reflects an ongoing downward trend in the percentage of the population reporting very good or excellent mental health, both in Yukon and nationally.

Figure 12: Self-Reported Mental Health and Related Indicators, 2013/14



Sources: Custom tabulation from data obtained at Statistics Canada (2015) [9]

Nine out of ten Yukoners reported being satisfied or very satisfied with life, despite the fact that nearly one-quarter report experiencing quite a lot of life stress. Perceived life stress and life satisfaction are at similar levels nationally, and have not shifted substantially since 2007/08 in either the territory or the country.

The rate of mood or anxiety disorders in Yukon, such as depression, bipolar and generalized anxiety disorders, fluctuates from year to year. However, as of 2013/14, just over 1 in 10 Yukoners were reporting one of these disorders, similar to the national rate.

Healthy Living and Prevention

The choices we make throughout our lives play an important role in determining our risk of illness, injury or premature mortality. Understanding how well Yukoners are doing in terms of dietary patterns, physical activity levels, and other health-promoting behaviours can help guide us to make positive changes in our own lives, and to support those around us to make healthier choices.

Diet, Physical Activity and Weight

Healthy eating, healthy weight and being active are important parts of leading a healthy physical and mental life.

Physical activity has numerous benefits for our physical and mental well-being. Yukoners continue to lead the country in our self-reported levels of physical activity; nearly two-thirds of us reported being active or moderately active in 2013/14, compared to only 54% of Canadians. Yukon women are particularly strong in this area, with about 63% of women active or moderately active, compared with only 52% of women across Canada.

The Yukon Active Living Strategy, headed by Yukon's Department of Community Services, promotes a vision of "A Yukon that is active, where health, well-being and physical activity are viewed as an investment in the quality of life for every individual, and for vibrant, healthy and sustainable Yukon communities." The strategy provides a framework for active living in four key settings: in schools, in workplaces, in communities and among friends and family.

Although our rates of self-reported physical activity are something to be proud of, it still means that one third of us are reportedly inactive, which conveys a greater risk of overweight and obesity, as well as other health challenges such as high blood pressure and heart disease.

Fruits and vegetables are key parts of a healthy diet, providing nutrition and potentially reducing the risk of obesity and selected chronic diseases such as diabetes, cancer and heart disease. Canada's Food Guide recommends that teens and women eat 7-8 servings of fruits and vegetables a day, while men are advised to eat 8-10 servings per day.[18]

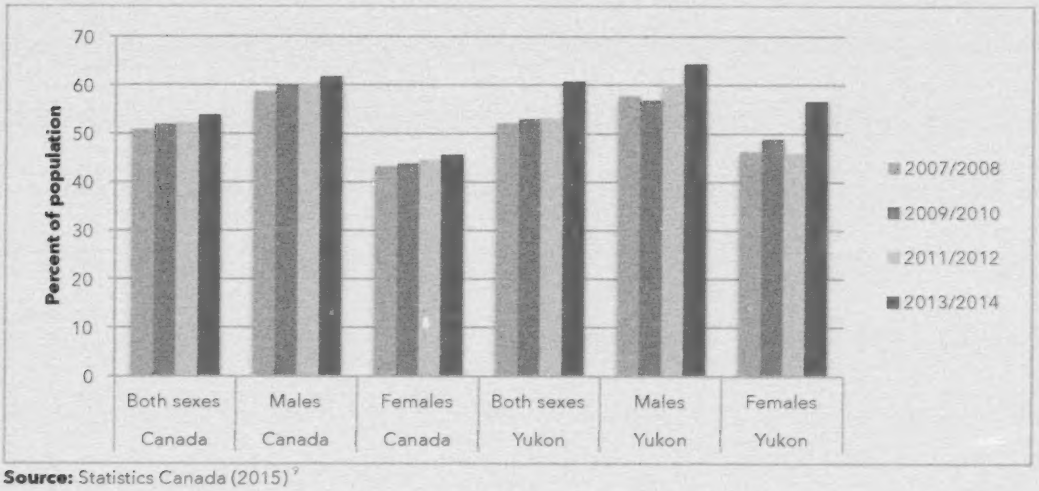
More than half of Yukoners and Canadians may be falling short of this recommendation, based on responses to

Local food sources are beneficial in a number of ways; in addition to being healthy and nutrient-dense, they support a connection with the local environment, reduce a household's food costs and promote sharing within the community

the Canadian Community Health Survey. As of 2013/14, only 37% of Yukoners and 40% of Canadians ages 12 and over reported eating fruits and vegetables five or more times per day. These statistics aren't the whole story, however. As detailed in the Yukon 2012 Health Status Report, three-quarters of Yukoners surveyed by the Recreation and Parks Association of Yukon (RPAY) felt they were making moderate to very healthy food choices. Other studies highlight the importance of local healthy food sources for Yukoners. A substantial proportion of households obtain some of their food from home-grown or locally-harvested sources, including gardening (34% of those in Whitehorse, and 44% of those in rural areas); berry picking (33% and 52%); hunting (33% and 58%); and fishing (44% and 62%).[19] These local food sources are beneficial in a number of ways; in addition to being healthy and nutrient-dense, they support a connection with the local environment, reduce a household's food costs and promote sharing within the community.

In contrast to high levels of physical activity, the 2013/14 Canadian Community Health Survey reports that nearly 40% of Yukoners are overweight–far higher than the national average of 34%. The percentage of people who reported being obese was also slightly higher in the territory, at nearly 22%, compared to 19.5% across Canada. Although these numbers have to be taken cautiously due to the small population of people sampled in Yukon for this study, the data clearly suggest that more than half of both Yukoners and Canadians are overweight or obese. As shown in Figure 13, the proportion of the population that reports themselves as being overweight or obese has also been increasing over time, and more so for Yukon than for the rest of Canada. This has several important implications for our health and well-being. While it is certainly possible to be fit at any size, carrying extra weight is associated with increased risk of type 2 diabetes, several types of cancers, major types of cardiovascular disease, as well as wear and tear on weight-bearing joints such as the knees, hips and ankles.[20]

Figure 13: Percent of the Population that is Overweight or Obese in Yukon and Canada



Source: Statistics Canada (2015)[7]

Health Screening for Disease Prevention

Health screening is an important part of monitoring and managing our health, as it helps identify people who may be at risk of developing a disease or condition before they have any symptoms. Regular screenings are commonly performed to detect high blood pressure, high cholesterol, diabetes and cancer, as appropriate for different ages. Timely, appropriate and effective screening can help detect changes before disease has developed, or at an early stage when treatment may be most effective and least invasive. Our understanding of what constitutes best practice in screening continues to evolve as we develop new technology, conduct additional research, and balance the benefits of early detection against the risks of over-diagnosis and unnecessary procedures.

Cancer screening rates in Yukon are similar to what is seen nationally, as shown in Figure 14. However, these average–based on the Canadian Community Health Survey–do not tell us about screening disparities. Although we do not have specific Yukon data, other studies (CPAC) do suggest that three groups of people are under-screened: new immigrants or those less culturally integrated; residents of remote areas; and those at a socioeconomic disadvantage.[21] Difficulties in accessing cancer screening–whether due to cultural, financial or geographic barriers–has been identified by Yukon First Nations leaders, and deserves further analysis. For example, a recent change in funding support from First Nations and Inuit Health non-insured services, appears to have almost immediately enabled improved utilization of screening mammography by First Nations women.[22]

Figure 14: Self-Reported Cancer Screening in 2012

Source: Statistics Canada (2015)[23]

The Canadian Cancer Society currently recommends stool testing (FOBT) at least every two years, for the general population ages 50 and over.[24, 25] Around 34% of Yukoners reported accessing colorectal cancer screening (including FOBT, colonoscopy or sigmoidoscopy) in 2012, compared to 39% of Canadians. At the time of this writing, the Yukon Government has committed to funding an organized colorectal cancer screening program and we are currently preparing to introduce such a program. A formal screening program will enable us to bring the benefits of screening to many more eligible Yukoners and ultimately decrease rates of colorectal cancer in Yukon.

For women ages 50 to 74 without a family history of breast cancer, a screening mammogram is recommended at least every two years for the early detection of breast cancer. In 2012, 60% of Yukon women in this age range reported meeting this recommendation compared to 71% of Canadian women.[26]

A Pap smear continues to be the recommended screening test for cervical cancer. While recommendations for screening frequency vary based on the results of previous Pap tests, the guidelines for adult women are to be screened every three years. In 2012, more than three-quarters of Yukon women in this age range reported having had a Pap test within the previous three years, similar to the 74% of Canadian women reporting this practice.[27]

Part 2: Focus on Substance Use and Addictions

What Are We Talking About? Defining Substance Use and Addiction

It is important to ensure we have a common understanding of what is meant by "substance use", "problematic use" and "addiction", as these terms can mean different things to different people. The definitions and related concepts that follow are informed by our current and much-improved understanding of the brain's response to substances and the brain's behavior in addiction.

Substance Use

Substance use refers to the use of tobacco, alcohol and other drugs of concern, such as street drugs or the illegitimate use of prescription drugs. It involves the use of products that are potentially addictive and have adverse health consequences when used to excess. Usage can vary from one-time only, to occasional use, to usage that ultimately causes destruction of personal well-being or life circumstances. At the lower end of usage, substance use may not be harmful or could even bring health benefits - such as those afforded by low levels of alcohol consumption.[28] But inevitably, substance use becomes more of a problem as usage increases, whether in amount, frequency, or in duration of use.

Problematic Use

Risky or problematic use refers to the use of substances in harmful or potentially harmful ways that do not fit a pattern of addiction. In this category of risky use we probably find the greatest numbers of people harmed by tobacco, alcohol or drug use. Within risky substance use we find several categories:

- Any alcohol use in pregnancy
- Use of alcohol beyond guidelines for safe consumption (e.g. drinking and driving, excessive consumption)
- Any use of tobacco (with the exception of ceremonial use)
- Illicit or improper use of prescription drugs (e.g. fentanyl, oxycodone)
- Use of substances by youth
- Recreational use of illicit or "hard" drugs to any degree, such as hallucinogens (ecstasy, PSP, LSD), opiates (heroin), or stimulants (crack and cocaine, amphetamines).

Addiction

Addiction involves a dependence on substances. The key element of addiction is a compulsion to use substances, whether alcohol, tobacco, drugs, or even engaging in certain behaviours, despite the adverse consequences of doing so. We now know that addiction is much more than behaviour: it is a disease rooted in the brain, and unless adequately treated, is an unrelenting chronic condition. What actually is happening in the brain is further described below.

> "...addiction is not about drugs, it's about brains. It is not the substances a person uses that make them an addict; it is not even the quantity or frequency of use. Addiction is what happens in a person's brain when they are exposed to rewarding substances or rewarding behaviors, and it is more about the reward circuitry in the brain and related brain structures than it is about the external chemicals or behavior that "turn on" that reward circuitry."
>
> **Source: American Society of Addiction Medicine (2011) as cited by the National Center on Addiction and Substance Abuse at Columbia University**

What is going on in the brain? The biology of substance use and addiction

Humans are hard-wired in many ways to survive. One of the survival mechanisms lies deep in the reward circuitry of the brain. Let's think back a few hundred thousand years. What did humans need in order to survive? Food, water, and sex to perpetuate the species. When fulfilled, these basic needs stimulate release of the neurochemical dopamine, which in turn causes a surge of opiates and reward chemicals to flood the brain so that food, water, and mate-seeking behaviours are reinforced.

This same reward circuitry in the brain that reinforces survival behaviours can turn against us when it comes to addictive substances. Certain substances carry a powerful ability to stimulate the brain for the same rewards, and reinforce behaviours that lead to more and more substance use.* Most addicting substances exert a dopamine-releasing effect far more powerful than the normal reward-producing substances such as food and sex. The height of the reward leads to unnatural and compulsive cravings for more hits of the substance as the receptors, so flooded by dopamine, become less and less sensitive. What once was a great reward becomes a new normal to be sought by repeated re-use. The brain chemistry alters so that seeking more of that substance, more reward, becomes the most powerful driver in that person's life – even at the cost of other life qualities. What's more, the effects of addiction may be additive: addiction to one substance can enable or reinforce an addiction to another.[29]

* The reward mechanism also explains the powerful rewards provoked by sugar, salt and fat, especially in combination–a tendency well understood by the food industry.

On the other hand, if not everyone becomes addicted, what are the life factors that predispose some individuals to addictions more than others? There are many biological, social and environmental life factors that influence the risk of addiction; factors that are described later in this report.

The First Nations Perspective

There is much to learn from the wisdom of Yukon First Nations, not only for their understanding of the roots and determinants of substance use, but for some of their innovative and holistic approaches to healing and to treatment. Substance use among First Nations people can be best understood through an awareness of the recent history of Yukon First Nations people: particularly the role of either direct or intergenerational trauma stemming from Indian Residential School and other colonial practices promulgated by previous authorities, including federal and territorial governments.

The Indian Residential Schools started in Yukon in the early 1900s and continued into the mid-1970s. Although a detailed account is beyond the scope of this report, many excellent sources of information are available, in addition to moving personal accounts (such as Andy Nieman's, discussed in the Foreword to this report).

Physical, sexual, emotional, or mental abuse was a common experience. Language and cultural identity were lost as a result of deliberate suppression. The quality of education was often poor so the children who attended lost an opportunity for education. Apart from experiencing the outright abuse, some of the main effects of attendance at Indian Residential Schools were:

- Loss of traditional learning and ways of passing on knowledge through story-telling
- Loss of family ties and connections due to the forced separation of children from their families
- Loss of language and culture as speaking native languages or demonstration of traditional culture was suppressed in the schools.

These abuses and deprivations had consequences that, for many families, have lasted for generations. As the children grew up to become parents they had few skills to raise their own children. In many cases, these adult children sought alcohol or other substances as a way to cope with the trauma. Violence also became a learned behaviour, and those who suffered abuse often became abusers to others. Lateral violence is a learned behaviour due to having lived with oppression: domestic violence, tolerance of violence, and abusive behaviours towards self or others are some of the effects of this phenomenon that often resulted in or exacerbated problems with substance use.

Alcohol use, other substance use, and addictions are repeatedly cited as key health concerns amongst Yukon First Nations. Specific aspects of First Nations and substance use will be

addressed throughout this report where there are data and where it seems appropriate to highlight the First Nation perspective.

That First Nations people have survived this experience at all as a culture–let alone progressed on a forward path of self-government, regaining cultural identity, language, traditional practices in healing, and living close to the land–is a testament to their strength as a people whose culture has, after all, endured for thousands of years. The journey toward healing still has a long way to go. Healing is a long, gradual and multigenerational process that must occur at both the community and the individual level. Recognizing this history that is written into each First Nation person struggling with addictions will also go a long way to assisting that person's journey toward healing.

Substance Use and Addictions: MYTHS & REALITIES

MYTH: Addiction is a choice.

REALITY: The reality of choice is complicated. Choices are influenced by genetics, by the presence of trauma or abuse in a person's background, by poverty or deprivation, and by living in a household where addictions are already present. And once addiction has begun, the desire to stop has to compete with strong drives from deep in the brain. As we now consider addiction to be a chronic disease, we realize that the road to recovery is rocky and long. Relapses are common; but each relapse equips the addicted person with lessons and experience. Whether for tobacco, alcohol, or drugs, it may take several attempts to achieve a goal of abstinence.

MYTH: Addicts are just losers/ the down and out.

REALITY: Addiction is a disease without boundaries. Successful business owners, teachers, professionals, religious leaders, single mothers, wives or husbands who stay at home...any of these people can struggle with addictions.

MYTH: It's okay to have the occasional drink in pregnancy.

REALITY: Fetal Alcohol Spectrum disorder has been associated with binge drinking in pregnancy or with even occasional drinking. FASD prevention is the responsibility not only of women seeking to become pregnant, but of their supports, partners, and community. There is no known safe amount of alcohol in pregnancy and the goal should be zero intake.

MYTH: If you can hold your alcohol, you don't have a problem.

REALITY: In fact, the reverse might be true. If you can take in several alcoholic drinks in a row and not feel anything, you could well have a problem. Tolerance to alcohol does not mean that you are free of its effects on the body–on the drive to addiction, or the effects on the liver or other organs, or on the risk of cancer or other long term alcohol effects.

MYTH: It's a prescription drug, so it must be safe.

REALITY: Prescription drugs are designed for people with particular conditions, to be taken at specific dosages. There is often a narrow line between therapeutic (i.e. helpful) and toxic doses of a drug. Prescription versions of opiate or stimulant drugs are available, and used wrongly can be just as harmful as their illicit counterparts.

MYTH: It's a natural drug (e.g. mushrooms, cannabis) so it can't be harmful.

REALITY: Natural or derived: the effects on the brain are the same. The effects, side effects, and benefits of drugs are based on pharmacology, not on whether they grow in the ground or are synthesized in a lab. Opium, mushrooms, and marijuana can all produce harm, even though they are "natural" products.

***Source**: Adapted from Phoenix House (2010)*[30]

Addictions and Effects Through the Lifespan

Anyone can be affected by substance use, abuse and addiction, whether through our own use and actions or through problematic substance use by our family, friends or community members. The following sections describe how the pattern of substance use and its effects manifest throughout the lifespan of Yukoners, from pre-conception to older age.

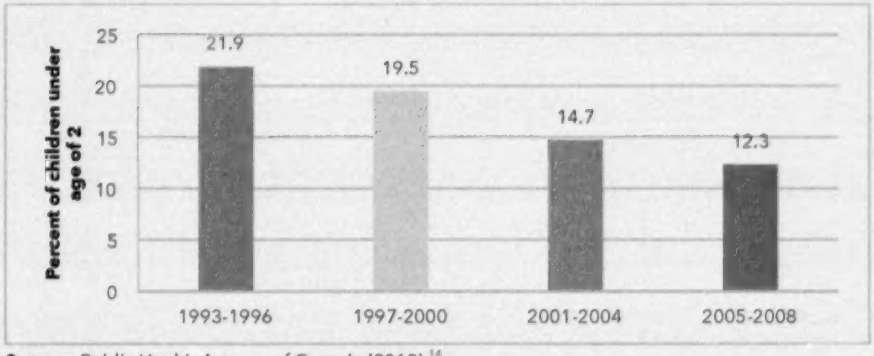
Pre-pregnancy and Pregnancy

Tobacco and Pregnancy

Smoking during pregnancy is a risk factor for a number of negative pregnancy and birth outcomes. Risks can include miscarriage, stillbirth, low birth weight/decreased fetal growth, pre-term birth and congenital anomalies.[31]

The good news is that overall rates of smoking during pregnancy have declined in recent decades, as shown in Figure 15. Data suggest that about half of Canadian women who smoked at the start of pregnancy quit at some point during pregnancy.[32] While stopping smoking may be challenging for many women, research suggests that quitting during pregnancy–particularly before the start of the second trimester–reduces the risks to the fetus significantly.[33]

Figure 15: Percent of Children Whose Mother Reported Smoking During Pregnancy in Canada



Source: Public Health Agency of Canada (2013) [34]

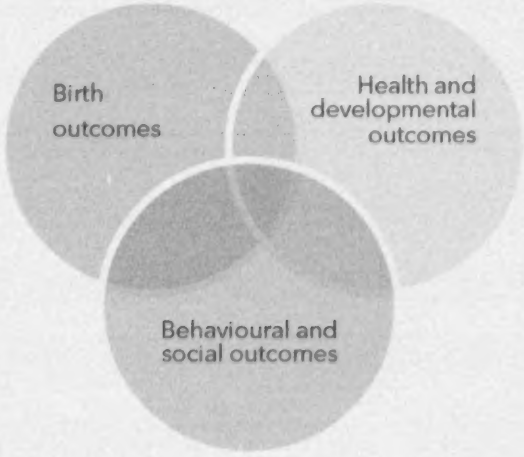
Alcohol and Pregnancy

The effects of alcohol use during pregnancy on fetal and child development continue to be studied. The timing, frequency and amount of alcohol consumption before and during pregnancy all contribute to the presence, nature and severity of effects on the fetus.

While the effects of high alcohol consumption on pregnancy outcomes are clearly supported by evidence, the effects of low level consumption of alcohol on the fetus are less certain. What is clear is that there is no known safe amount of alcohol during pregnancy, and thus current guidelines wisely counsel women to avoid any alcohol while pregnant or planning to become pregnant.[35-37]

Alcohol consumption during pregnancy can have an effect on birth outcomes, such as low birthweight and congenital anomalies such as eye, ear and heart defects. The brain is physically altered as well, which affects the health and development of the child. The result may be cognitive deficits (i.e. decreased ability to think, solve problems, or learn) and may also lead to behavioural and social outcomes. These domains can overlap and interact with one another, as shown in Figure 16. Effects on health and well-being later in life may also be experienced, with affected individuals encountering challenges with education, employment and other important determinants of health.

Figure 16: Factors Affecting Health Effects from Alcohol Use During Pregnancy



Pregnant women who consume alcohol may be at increased risk of miscarriage, stillbirth, premature delivery or delivering an infant with low birthweight or a congenital anomaly. For women who deliver without an obvious adverse birth outcome identified at birth, a range of possible effects to the development of the child has been identified. These effects have been

grouped under a term that is now well-known to many of us: Fetal Alcohol Spectrum Disorder (FASD).

Fetal Alcohol Spectrum Disorder (FASD)

Fetal Alcohol Spectrum Disorder, or FASD, is defined by the CanFASD network as "a neurodevelopmental disorder resulting from prenatal alcohol exposure" that features complex behavioural and intellectual problems persisting through the lifespan.[38] This definition is based on a recent guideline issued through the Canadian Medical Association Journal.[39] FASD is associated with a range of physical and developmental disabilities, as shown in Figure 17.

The effects of FASD are experienced not only by the individual, but also have significant implications for families and communities. Families may be involved in providing an extensive level of social and financial support well into adulthood, while also potentially dealing with behavioural and mental health problems and social challenges, and secondary issues such as addictions and problems with the law. A number of supports and interventions, including speech-language therapy, psychiatric care, supportive housing, long-term care and special education, may also be needed.[40]

Figure 17: Selected Outcomes Associated with Fetal Alcohol Spectrum Disorder

More than 3,000 babies are born every year in Canada with FASD
FASD can cause difficulty in the following areas:
Physical problems
Low birth weight and growth
Problems with heart, kidneys and other organs
Damage to some parts of the brain
may lead to
Behavioural and intellectual difficulties
Learning disabilities and low IQ
Hyperactivity
Difficulty with attention
Poor ability to communicate in social situations
Poor reasoning and judgment skills
may lead to
Lifelong issues with:
School and social skills
Living independently
Mental health
Substance use
Keeping a job
Trouble with the law
"There is no known safe amount of alcohol during pregnancy"

Source: Adapted from U.S. CDC [41]

We don't know how common FASD is in Yukon. According to the Chief Public Health Officer, more than 330,000 Canadians are said to be affected by FASD, and more than 3,000 babies are born every year in Canada with FASD.[42] However, rates may vary substantially by community. Studies of specific communities in Canada have found rates ranging from 0.589 to 190 per 1,000 live births.[43]

Drugs and other substance use during pregnancy

Although Yukon data are not available, national data from 2006-07 suggest that 1% of women across Canada used street drugs–including methamphetamine, cocaine, heroin, marijuana and others–during pregnancy.[44] In contrast to the known effects of alcohol and tobacco, the effects of many of these substances on pregnancy is less clear, as it is hard to tease out drug effects from other associated factors, including alcohol and substance use. Some drugs (particularly cocaine) may cause pre-term birth and low birthweight, both of which may increase health risks for the fetus, birth and early childhood. Mothers who have contracted infectious diseases (such as Hepatitis or HIV) due to injection drug use may inadvertently expose their infant to these diseases.

Some infants can become addicted to these substances–particularly opioids or prescription drugs–while in the mother's womb. When the baby is born, it goes through withdrawal, or neonatal abstinence syndrome (NAS). Signs of NAS may include central nervous system symptoms (e.g. irritability, seizures, sleep problems); autonomic dysfunction (e.g. breathing and heart-rate irregularities, fever, stuffiness); and gastrointestinal dysfunction (e.g. diarrhea, vomiting, failure to thrive).[45]

Post-delivery, mothers who continue to abuse substances may be at increased risk of abusing or neglecting their infants.[46]

Children and Youth

Critical periods of social, emotional, and intellectual development occur during childhood, adolescence and young adulthood. Research suggests that early childhood life experiences and environments can have a lifelong effect on health and well-being, socioeconomic opportunities, and our ability to participate in society. Patterns established at an early stage in life may have effects throughout the lifespan, making this a crucial stage for interventions that help our young people to thrive.

Tobacco and Youth

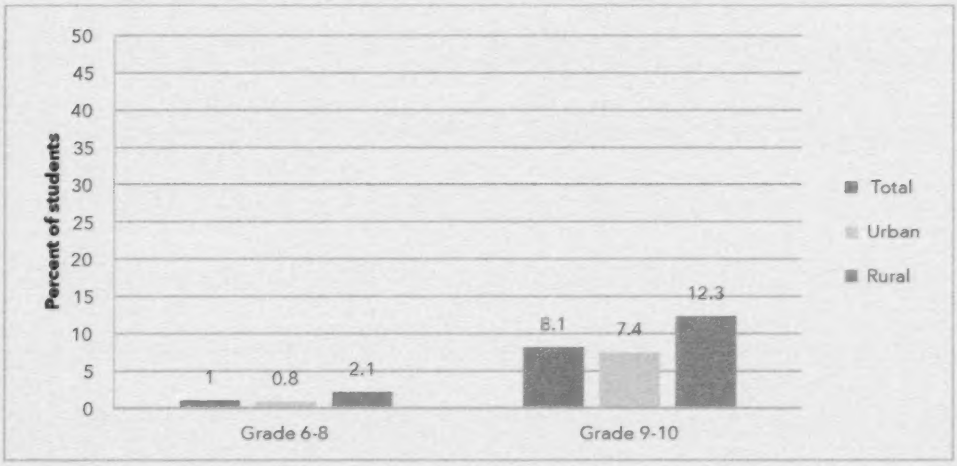
How many youth in Yukon smoke? In 2010 and 2014, a survey was conducted across Yukon among children in Grades 6-10 (the *Health Behaviours of School-Aged Children* – or HBSC –

survey). The 2014 survey found that about 12% of the Grade 6-8 students reported ever smoking while nearly 30% of students in Grades 9-10 reporting ever having smoked. For both groups, rural students were more likely to have tried smoking than urban students.

In terms of daily smoking, very few Grade 6-8 students reported daily smoking in 2014, and fewer than one in ten Grade 9-10 students reported this behavior. There was a notable difference in daily smoking between urban and rural students particularly for Grades 9-10, as shown in Figure 18.

The percent of children who use tobacco appears higher in Yukon than across Canada. Although different studies use different measures, in the 2013/14 Canadian Community Health Survey, 14.8% of Yukon youth ages 12-19 reported daily or occasional smoking. This compares with a rate across Canada of 8.3%.

Figure 18: Grade 6-10 Students Reporting Daily Smoking in Yukon, 2014



Source: Freeman et al. (2015) [47]

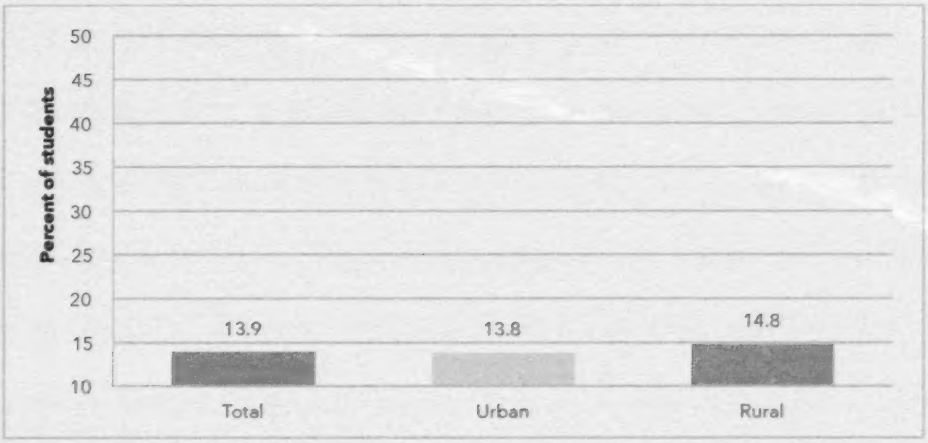
Alcohol and Youth

Like tobacco, alcohol use among Yukon youth appears to be higher than the Canadian average. The HBSC survey found that 8.4% of students in Grades 6-8 and 37.8% of students in Grades 9-10 report having been "really drunk" at some point, with rates higher in rural areas than in Whitehorse.

* There are some limitations associated with the data from the HBSC survey, which only surveyed students who were in school during collection periods, and who agreed to participate. Challenges with data collection in one rural community in 2014, and individual choices on participation mean the data do not offer complete coverage, and it is not possible to predict how the characteristics of those who did not respond might differ from those who did respond.

Binge drinking–defined as five or more drinks in one occasion for boys, and four or more for girls–can be a particular problem for young people, who are often less familiar than adults with the effects of alcohol and who are more prone to impulsive or dangerous behaviours.[48] As shown in Figure 19, in 2014 about 14% of Yukon students in Grades 9-10 reported binge drinking more than once a month. This appears to be a substantial drop from 2010, when more than 20% of Grade 9-10 students surveyed in Yukon reported this behaviour.

Figure 19: Grade 9-10 Students Reporting Binge Drinking More than Once a Month in Yukon, 2014



Source: Freeman et al. (2015) [47]

Drugs and Other Substance Use and Youth

In both 2010 and 2014, cannabis* was the substance most frequently used among Grade 9-10 students. More than one-third of surveyed students reported that they had tried cannabis, and more than one in five reported using cannabis within the last 30 days. Other substances reported by the students included ecstasy (6%), cocaine (6.5%), hallucinogens (8.9%), pain relievers taken for the purpose of getting high (6.8%) and cough/cold medicine taken to get high (10.9%). Very few students reported ever using methamphetamines, stimulants, glue or solvents, or heroin.

First Nations Youth: Selected Results from the Yukon Regional Health Survey

The First Nations Regional Health Survey was piloted in 1997, with national reports published by the First Nations Information Governance Centre for each phase since. In addition, a regional survey for Yukon has been conducted twice, with a third survey currently in progress and

*Note that the words 'cannabis' and 'marijuana' are used interchangeably throughout this report.

expected to be completed later in 2016. The data in this section come from the Yukon First Nations Regional Health Survey carried out in 2009. Both the national and regional surveys look at various aspects of health and well-being, including alcohol, smoking and drug use. The resulting report emphasizes the importance of social determinants of health (such as social, cultural, community, economic and environmental influences) and the direct or intergenerational impacts of historical trauma on the well-being of First Nations persons in Yukon.

Given the different methodology, age range and time period, these data are not directly comparable with the results of the Canadian Community Health Survey (CCHS). For example, the RHS was an in-person survey conducted by trained Yukon interviewers, compared to the CCHS which uses remote telephone interviews.

In addition, the RHS may be more representative of the Yukon First Nation population, and allows for more reliable estimates at finer levels of detail, as approximately one fifth the Yukon First Nation population was surveyed compared to an estimated 2.4% of the Yukon First Nation population surveyed for the CCHS.*

Where differences between First Nations-specific data and overall data for Yukon are apparent, it is important to qualify the interpretation, not only due to different study methods, but also the unique perspective and history of Yukon First Nations as described earlier.

Based on the Yukon Regional Health Survey, an estimated 19% of First Nations youth ages 11 to 17 reported daily smoking in 2008/09, while an additional 7% reported smoking occasionally. Half of First Nations youth respondents reported not drinking at all in the previous year, while 31% reported binge drinking (five or more drinks in one occasion) at least monthly in 2008/09.†

Over forty percent of First Nations youth respondents reported using one or more non-prescription drugs. Consistent with other data from Yukon, marijuana use was by far the most commonly reported, with 42% of youth reporting its use in the previous 12 months. (In comparison, the Health Behaviours data on Yukon students in grades 9-10 suggested about one third had used marijuana in the previous 12 months.). Also similar to the reports from

* Factors other than sample size can influence the reliability and representativeness of data. However, given the use of methodological tools including random sampling and post-survey weighting procedures for the Yukon RHS, it is unlikely methodological differences would discount the benefits of the increased sample of First Nations persons compared to the CCHS.

† The estimated prevalence of monthly binge-drinking was based on applying the percentage of those who reported binge drinking once a month or more to the total share of youth who reported any drinking. As a result, this estimate does not account for the non-respondents to the question on frequency of binge drinking, and assumes they would be distributed similarly to respondents.

Yukon students, relatively few First Nations youth reported using other substances (such as LSD, Cocaine or methamphetamines).

The RHS included questions on whether respondents had sought treatment for addictions. While this may not represent the prevalence of addiction, it does offer an indicator of how many First Nations persons perceived themselves as needing treatment, and chose to seek that support. Based on the results, an estimated 8% of First Nations youth in Yukon had sought treatment for addictions, as of 2008/09.

As noted, physical well-being and related factors, including substance abuse and addictions, may be influenced by many factors. The impacts of Residential School continue to influence well-being for many families and individuals, including the children and grandchildren of survivors. Other trauma and abuse experienced by youth themselves, or by their parents, may also influence risk behaviours and mental and physical well-being. In addition, factors such as community belonging, socio-economic status, housing, education, culture and more all play a role in the health and well-being of youth and adults (First Nations and otherwise).

Factors Associated with Youth Substance Abuse

Although many youth experiment at some point with alcohol or other substances, experimentation does not lead to abuse or addiction for most users. It can be helpful to understand what factors change the trajectory from "normal" experimentation to more problematic behaviours.

A number of biological, environmental and psychological factors have been associated with increased risk of developing substance use disorders, as shown in Box 2. These factors can interact in complex ways, potentially exacerbating or counteracting the influence of each other. The risk posed by genetic predisposition to addiction, for example, may be intensified by child abuse and maltreatment, or offset by positive parenting and a stable, nurturing home environment.

Research evidence also suggests that the developing adolescent brain is particularly vulnerable to potential substance use problems and addiction. Regions of the brain that are associated with motivation, impulsivity and addiction appear to

Box 2: Selected Risk Factors Associated with Trajectory to Substance Use Disorders

- Genetic predisposition
- Impaired brain development
- Child abuse and maltreatment
- Parental substance abuse
- Maternal depression
- Negative peer influences
- Poor self-regulation
- Internalizing problems
- Mood or anxiety disorders
- Early onset of substance use
- Poor early socialization
- Poor early attachment
- Post-traumatic stress disorder

Source: Canadian Centre on Substance Abuse, 2014 [1]

develop more quickly than others during adolescence, predisposing youth to engage in risky behaviours and to being differentially affected by the reward sensations associated with many substances.[49]

The Canadian Centre on Substance Abuse has proposed different pathways that can lead youth to substance abuse, taking into account family circumstances, environmental, biological and psychological traits and other influences.[49] Given the high prevalence of substance use amongst youth, knowledge of these potential pathways is important, as is an understanding of both risk factors and protective factors that can lead to useful, evidence based interventions.

Consequences of Substance Use in Children and Youth

Whatever the pathways taken to get there, problems associated with substance abuse and addictions can have a wide range of consequences on the individual, and also on their family, friends, peers and communities. Many of these effects have long-lasting and far-reaching consequences, as shown below.

Consequences of Substance Use in Children and Youth

Hospital Visits and Admissions

Between 2010/11 and 2014/15, children and youth in Yukon made an average of about **245 visits per year to the Emergency Department** for which alcohol or drug related diagnoses were identified as the main reason for the visit (or the most responsible diagnosis).[50] About 15 children and youth in Yukon were admitted to Yukon hospitals annually between 2010/11 and 2014/15 for reasons primarily attributed to drugs or alcohol. The majority (around 90%) of these emergency department visits and hospitalizations were made by young people between the ages of 15 and 24.

Self-Harm and Suicide

There is a relationship between drug and alcohol abuse and self-harming behaviours. Substance abuse can directly affect mood and judgment, increasing negative emotions and reducing inhibitions.[51-53] Indirectly, substance abuse can create or exacerbate problems in relationships or academic performance, contributing to mental health problems. Youth may also engage in substance abuse and self-harming behaviours in an attempt to reduce negative or undesired emotions. From 2010/11 to 2014/15, children and youth made an average of about **40 visits annually to Yukon emergency departments due to intentional self-injury**. A substantial proportion of these visits - about 25 annually - involved drugs or alcohol in some way, whether as the mode of injury, or due to noted intoxication or the presence of alcohol or drug-related symptoms or behaviour.[50]

Mental Health and Disorders

The relationship between substance abuse and mental illness is complex. People with mental health challenges may turn to substance use to relieve symptoms, or in some cases may be more prone to developing substance abuse problems than those without mental illness. Conversely, the use of substances themselves may trigger or exacerbate mental illness or mental health problems – such as the depressive effect of alcohol, or possible paranoia associated with heavy use of cocaine. Substance abuse problems may also lead to relationships difficulties and other challenges, which in turn can provoke distress or other negative mental states.[54]

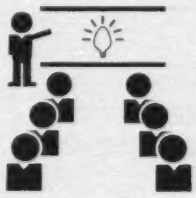
Motor Vehicle Injuries

Based on the Canadian Council of Motor Transport Administrators estimates for Yukon between the years 2001 and 2010, **35 of the 74 serious-injury crashes** involving a driver age 25 or younger were thought to be alcohol-related.[55]

Criminal Charges

An international survey of youth in 2006 found that delinquent behaviour was reported nearly four times as often by youth who reported consuming alcohol or drugs than by those who did not.[56] According to police-reported crime statistics, **247 youth in Yukon were implicated in incidents of impaired driving or drug violations** from 2007 to 2014. Nearly two-thirds of criminal incidents involving Yukon youth reported from 2007 to 2014 were for cannabis possession. About one in ten incidents were for cannabis trafficking, production or distribution. Relative to Canada as a whole, youth in Yukon were about **five times more likely to be involved with police** for impaired driving (whether or not they were formally charged). Drug violations and cannabis possession or trafficking were also more common among Yukon youth than nationally. These differences may reflect either a greater frequency of occurrences in Yukon, or differences in police practices.

School Performance



Several studies have suggested links between problematic substance use and school performance, including poorer academic outcomes, lower rates of attendance, and higher drop-out rates. There is some evidence that reductions in substance use can result in improved attendance at school. School may also serve as a venue for positive social connections and provide opportunities for intervention, further contributing to the multidirectional nature of the relationships between substance use, academic performance and other areas of well-being.

Other Harms

The abuse of alcohol and other substances by children and youth may be expected to affect other areas of well-being, such as peer and family relationships. Even without these immediate effects, the potential for substance abuse or addiction in adolescence to lead to problematic behaviours and circumstances in adulthood may have implications for individuals, families and communities.

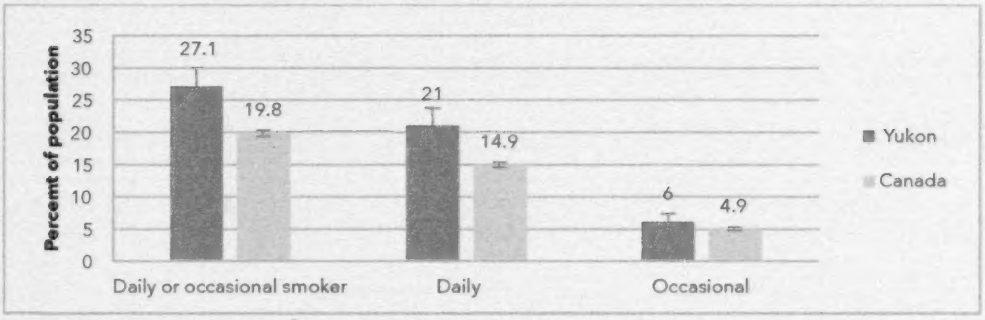
Adults

Smoking, alcohol, and illicit and prescription drugs have a range of potential effects on health and well-being. In this section, we will look at what and how much Yukoners consume, and how this may affect our well-being as individuals and as a society.

Tobacco and Adults

Smoking continues to be a prominent public health issue both in Yukon and nationally, with links to numerous chronic diseases including cancer, COPD, premature mortality, and to generally worsened health.[57] Though our rate of smoking is lower than the other two territories (particularly Nunavut), we continue to report higher levels of smoking than the Canadian population as a whole. Over one-quarter of Yukoners ages 20 and over reported daily or occasional smoking in 2013/14, compared to about one-fifth of Canadians in that age group.[9]

Figure 20: Daily or Occasional Smoking, 2013/14

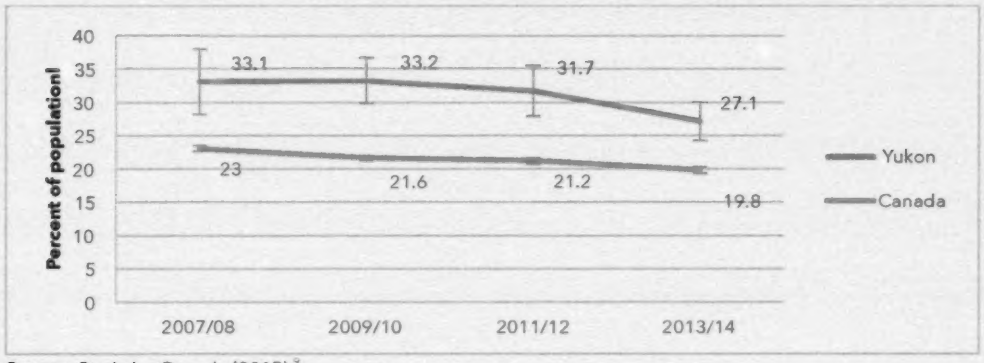


Source: Statistics Canada (2015) [9]
Note: Population age 20 and older

On a positive note, in 2013/14 we saw a substantial drop in our smoking rate compared to the previous reporting period of 2011/12, from 31.7% to 27.1%.[9] Nationally, the rate has declined as well, as shown in Figure 21. The steeper decline in Yukon smoking rates could be a result of

the ever-growing Quitpath* tobacco cessation program as well as a long-awaited effect of the 2008 Smoke Free Places Act†. It will be very interesting to see if this downward trend continues.

Figure 21: Daily or Occasional Smoking, 2007/08 to 2013/14



Source: Statistics Canada (2015) [7]
Note: Population age 20 and older

Tobacco has a special place in Yukon First Nations history and still is used for traditional and ceremonial purposes. In fact there are few substances that illustrate the contrast between culturally strengthening, integrated use (ceremonial tobacco use) and destructive, addictive use (regular smoking) as does tobacco in the First Nations context. Unlike alcohol, which was introduced with European colonization, tobacco already had a sacred place in First Nations culture, long before Europeans arrived. However, First Nations people are well aware of the risks associated with modern cigarette smoking.

The Regional Health Survey of First Nations persons estimates that 42% of First Nation adults (ages 18 and over) in Yukon were daily smokers in 2008/09, while an additional 10% were occasional smokers. The RHS takes considerable length to explain the context of First Nation individuals' smoking behaviour.[58] This includes a history of either past or present trauma, as referred to in the introductory section of this report, as well as stresses related to work or home life, and/or struggles with alcohol or drug addictions. In this context, smoking is seen as a coping behaviour and for some individuals a "quit or else" approach might not be the most appropriate. Continuing to cope may be the biggest priority and managing or even reducing the amount in a harm reduction sense may be more appropriate for that person at that time.

Nevertheless, it appears that about half of adult First Nations smokers have tried to quit at one time and one-third of participants had tried multiple times in the previous year, showing a strong desire to quit for those individuals that are ready, and illustrating a need to be able to support those individuals when the time is right.

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* www.quitpath.ca

† http://www.hss.gov.yk.ca/sfpa.php

Alcohol and Adults

Alcohol is the most commonly consumed substance discussed in this report, and has been identified as a contributor to a number of health and social challenges experienced in Yukon and elsewhere. Gaining a complete understanding of how much we consume can be complicated by data collection issues, but is important to help us understand our population's behaviours.

Based on the latest sales figures reported to Statistics Canada, Yukon had the second highest per capita sales of alcoholic beverages in the country in 2013/14 at $1,145 per person, compared to $696 nationally. Only NWT sales were higher, at $1,345 per capita.[59] On a volume basis, Yukon reported the highest sales of any of the provinces and territories, with sales of 13 litres of absolute alcohol per person ages 15 and over. NWT was second highest at 11.7 litres, while nationally, the per capita volume was 8 litres.

Figure 22: Per Capita Sales of Alcoholic Beverages, 2013-14

Source: Statistics Canada (2015) [59]

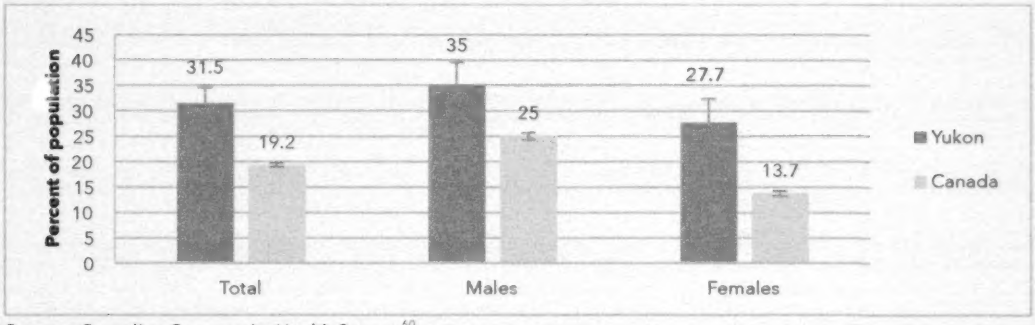
Sales figures, of course, are not equivalent to consumption levels. Different people consume different amounts of alcohol, and a substantial portion of the Yukon population does not consume any alcohol. Sales figures as a proxy for consumption can also be confounded by non-resident consumption (principally tourists), illegal sales and home brews, and wastage. Thus, although the correlation is loose, we can say that there is an association between high sales rates and what we know of high consumption rates from other data sources, including some concerning data on problematic drinking.

Looking at drinking patterns more closely, we find that as of 2013/14, about one-fifth of Canadian adults and 18% of Yukon adults reported not drinking at all in the previous 12 months. This figure includes lifetime non-drinkers, former drinkers and those who had temporarily stopped drinking (for example due to pregnancy). First Nations adults responding

to the 2008/09 Regional Health Survey reported a higher rate of abstaining, with 35% reporting not having alcohol in the 12 months prior to the survey.[58]

At the other end of the spectrum from abstainers are heavy drinkers: men who consume at least five drinks on a single occasion, at least monthly; or women who consume at least four drinks on a single occasion, at least monthly. Yukoners were significantly more likely to report drinking heavily in 2013/14 than Canadians as a whole. More than 30% of Yukoners ages 20 and over reported heavy drinking, compared to about one-fifth of Canadians, as shown in Figure 23. The gap was particularly notable among Yukon females, who were about twice as likely to report monthly heavy drinking as females in Canada overall.

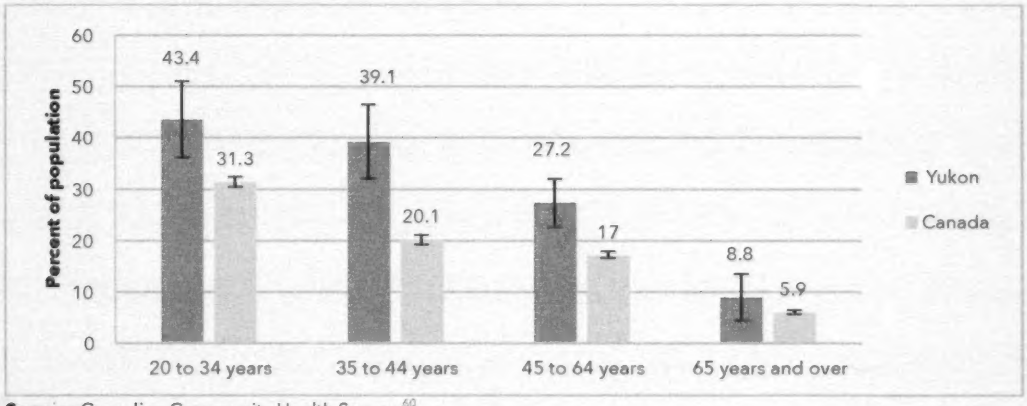
Figure 23: Heavy Drinking by Gender, 2013/14



Source: Canadian Community Health Survey [60]
Note: Population age 20 and older

Heavy drinking is more prevalent among younger age groups. As shown in Figure 24, Yukoners and Canadians ages 20 to 34 were about five times more likely than those ages 65 and over to report heavy drinking.

Figure 24: Heavy Drinking by Age, 2013/14



Source: Canadian Community Health Survey [60]

First Nations Adults and Alcohol

Many First Nations people are non-drinkers, although those who do drink may find themselves in unhealthy patterns of substance use.[58]

The 2008/9 RHS asked First Nations respondents how often they drank. The study data tells us that 35% of the adult respondents did not drink at all: a remarkably high number of non-drinkers compared to about 20% of Canadians overall who do not drink. On the other hand, an estimated 45% of First Nations adults ages 18 and over reported heavy drinking (based on having five or more drinks at one time, whether respondents were male or female) at least monthly, with 2 to 3 times per month the most commonly reported frequency.

Such a polarized pattern between abstinence and risky drinking at the other end attests to the role that history and ongoing trauma still plays. Like smoking, alcohol is often used as a coping mechanism, or a temporary escape from trauma or stress, that eventually contributes to further difficulties through harmful drinking patterns. As noted in other sections, the impacts of residential school and other determinants of well-being are important to consider in reviewing these results, and identifying appropriate responses.[58]

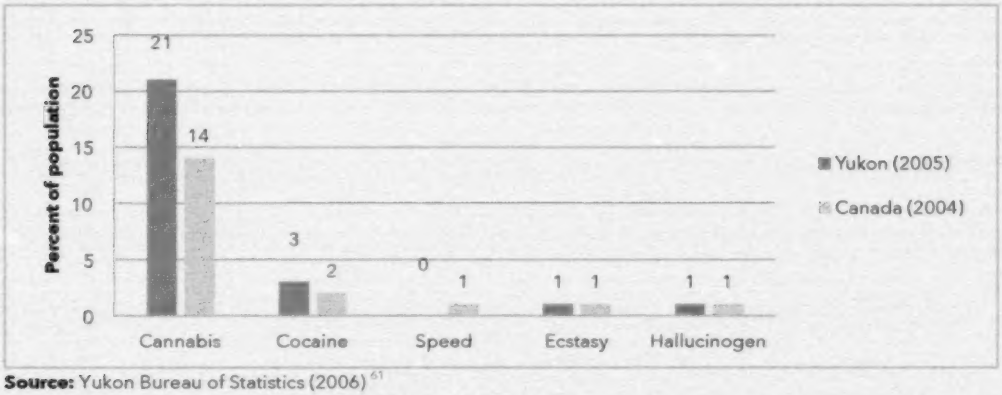
The relationship of alcohol to past trauma is complex. The Yukon First Nations Regional Health Survey for example points out that the majority of Residential School survivors do not drink. However these survivors are still burdened with trauma that may play out in other ways. As the survey discussion notes, the absence of drinking does not mean that "all is well". In addition, conflict between elders who have quit drinking and their adult children who continue to drink alcohol often arises.

Drugs and Other Substance Use and Adults

Sources of information on drug use in Yukon are more limited than those for alcohol consumption, as the Yukon population is not routinely surveyed on drug use.

Cannabis appears to be by far the most commonly used illicit drug, based on self-reports of Yukoners and Canadians in 2004/2005 (the most recent period for which survey data is available).[61] About one in five Yukoners reported having used cannabis over the previous 12 months, compared to about 14% of Canadians. Among the Yukon population, those ages 25 to 44 were most likely to report cannabis use. Forty percent of Yukoners ages 25 to 44 reported cannabis use in the previous year, compared to about 30% of those between the ages of 15 to 24 and 45 to 64, and none of the senior population.[61] Far fewer survey respondents reported using other illicit substances such as cocaine, speed, ecstasy or hallucinogens.

Figure 25: Illicit Drug Use in the Previous 12 Months, Population 15 and Over, Yukon (2005) and Canada (2004)

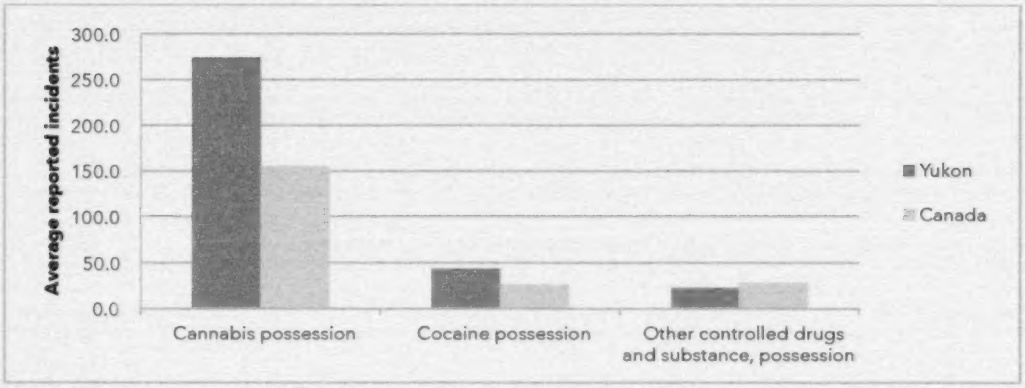


Source: Yukon Bureau of Statistics (2006)[61]

According to the 2008/09 RHS survey, which was conducted using a different methodology, 35% of First Nations adults ages 18 and over in Yukon reported using cannabis in the previous 12 months. Over 10% of the survey respondents reported using cocaine, while 7% reported using heroin or LSD. Nearly 30% of First Nations adults responding to the survey reported seeking treatment for addictions – suggesting not only that these individuals were able to self-identify as having addictions, but were taking concrete steps to address these challenges.

Police-reported incidents for drug possession offences reinforce the impression of cannabis as the dominant illicit substance among Yukoners and Canadians, and these rates were over 1.5 times higher for Yukon than Canada. From 2005 to 2014, there were an average of 274.5 incidents of cannabis possession (per 100,000 population), compared to 155.4 for Canada. Incidents of cocaine possession and other controlled drugs and substances were reported much less frequently in both jurisdictions, as shown in Figure 26. These figures are also in line with police impressions of drug activity in the territory. When asked about their perceptions of drug use in Yukon for this report, RCMP confirmed that cannabis and cocaine continue to be the main drugs of choice in Yukon, although methamphetamine is emerging on the scene. Officers have also reported abuse of heroin and prescription medication in the territory.[62]

Figure 26: Average Police-Reported Incidents of Controlled Substance Possession in both Adults and Youth, 2005-2014



Source: Statistics Canada (2015)[63]

High-Risk Populations

Yukon's high-risk population comprises those people who are thought to be at particularly high risk of experiencing harmful consequences of alcohol and drug use.

The 2005 Yukon Addictions Survey examined heavy, frequent drinking among a high-risk population identified in Whitehorse.[61] Nearly half of these high-risk persons indicated heavy drinking on at least a weekly basis, compared to about one in ten Yukoners; and whereas on average, Yukoners consumed 3.8 drinks per occasion, the high risk population reported 10.4 drinks per occasion.

In 2011 and 2012, a survey known as the I-Track survey was conducted among persons in Whitehorse who identified as current users of injection drugs, or of inhalation drugs (primarily crack cocaine).[64] In addition to the risks of addiction, many of the persons surveyed displayed drug use behaviour that increased the risks of exposure to infectious diseases. One in five persons reporting current injection drug use had borrowed a needle within the past 6 months, and 42% had borrowed other equipment (despite many of these respondents being clients of a needle exchange program). More than half of non-injection drug users had borrowed a crack pipe in the previous 6 months, though some attempt to decrease the risk of infection was used by most of those persons - ranging from using their own mouth piece to wiping the end of the pipe on their clothing. More than one-quarter of those who reported sharing a crack pipe did nothing to decrease the risk of infection. Some of the report findings resulted in changes to how services were delivered at Blood Ties Four Directions Yukon, an NGO dedicated to supporting clients with hepatitis C, HIV/AIDS or at risk for these conditions due to marginalized living circumstances.

Consequences of Substance Abuse and Addictions

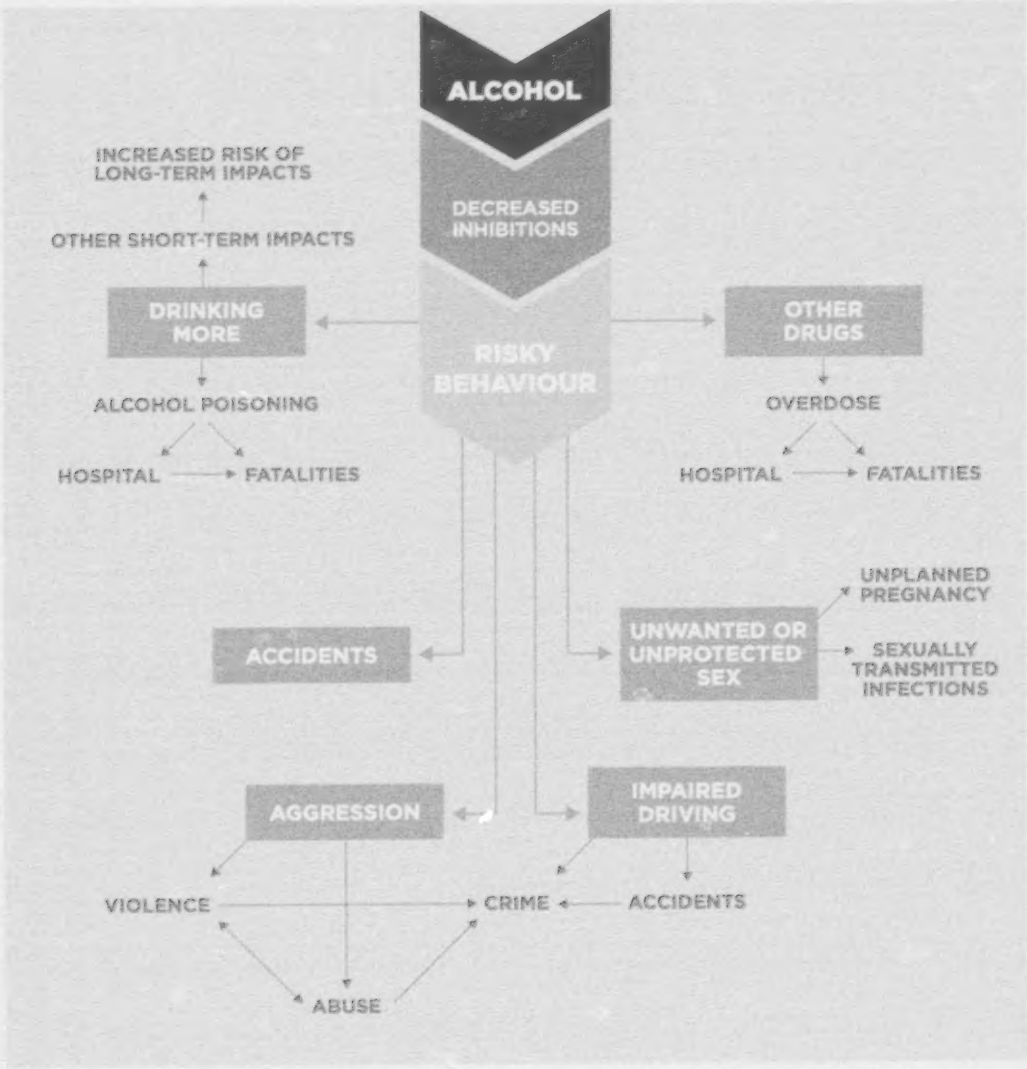
Substance abuse and addictions may affect individuals, families and communities in a variety of ways. Direct and indirect effects on physical and mental health, effects on the individual's social and economic well-being, and harms to family members, friends and communities, may all result from the cumulative effects of substance abuse and addictions in our population.

Behavioural effects

Before examining health and societal effects, it is worth reflecting on how addictive substances influence behaviour, leading either to further consumption, to mixing with other substances or to the effects that are described in more detail below.

As the leading mind-altering drug of choice amongst Canadians, alcohol provides a clear example of the complex relationship between consumption and behaviour. The recent Chief Public Health Officer's report on alcohol consumption amongst Canadians[42] has illustrated this relationship in the schematic below.

Figure 27: A Schematic of the Widespread Impacts of Alcohol on Risky Behaviour



©All Rights Reserved. *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2015: Alcohol Consumption in Canada.* The Public Health Agency of Canada, 2016. Adapted and reproduced with permission from the Minister of Health, 2016.

Health Effects

Smoking, alcohol and illicit drug use have all been identified as contributing factors to the burden of injury, disease and premature mortality. Some of these effects, and how common they are in Yukon, are described in the table below.

Mental Health

Problematic substance use often co-occurs with mental health conditions. **The likelihood of a mental health disorder among persons with substance use disorders (excluding alcohol) is 4.5 times that of persons without substance use disorders.**[54] This relationship may arise from multiple pathways: substance use can trigger psychiatric symptoms; mental health problems can influence substance use behaviours; a third factor (such as trauma) might trigger both conditions; or potentially, each behaviour might be present, but not related.

Chronic Disease

Tobacco (including chewing tobacco) has been linked to numerous forms of cancer, including lung, esophagus, oral, pancreas, stomach, bladder and cervix.[12] The WHO suggests that **worldwide, nearly 80% of lung cancer deaths among males and half of those among women are attributable to smoking.**[65] Smoking is also associated with chronic respiratory diseases (such as COPD and asthma) , cardiovascular diseases, and gastric ulcers–both as a cause of conditions and as a contributor to worsening symptoms and outcomes.

Alcohol has a more complex relationship with chronic disease. Some evidence suggests that lower levels of alcohol consumption (approximately one-half to one drink per day) may be protective of health.[28] However, heavy alcohol consumption can increase the risk of many conditions, such as some cancers, cirrhosis, pancreatitis and epilepsy.[66, 67] Even moderate alcohol consumption has been implicated as a risk factor for some cancers, particularly breast cancer in women.[42] Moreover, alcohol can be both beneficial and detrimental to some health conditions, such as ischemic heart disease, depending on the pattern of consumption (with benefits associated at lower levels and harms associated with higher levels). The volume and pattern of consumption are important factors, but on balance, **there is clear evidence of the increased burden of chronic disease associated with heavy, chronic consumption**, and less conclusive direction as to whether low to moderate consumption (among otherwise healthy adults) is a protective or risk factor for disease overall.

Sexually Transmitted Infections

Research has suggested a link between some patterns of substance use and the risk of sexually transmitted infections (STIs). Whether this relationship is causal is challenging to determine; there may be other contributing factors, such as the social environment, or personality traits that increase the likelihood of both substance use and risky sexual behaviours. People with addictions may also engage in the exchange of sex for drugs (or money), potentially leading to increased risks associated with multiple partners.[68]

Hospital Visits & Admissions

Persons who are severely intoxicated and/or chronic abusers of alcohol or other substances may end up in hospital emergency rooms, or be admitted to hospital for many possible conditions. These include acute illness resulting from an overdose or the cumulative effects of excessive consumption; injuries related to motor vehicle accidents, falls or other unintentional events; self-inflicted injuries or injuries resulting from violence; or mental or behavioural disorders related to alcohol or other substances.

Between 2010/11 and 2014/15, Yukon adults ages 25 and over **made an average of over 1,000 visits to the Emergency Department annually for problems directly associated with drug and/or alcohol use**.[50] More than half of these visits were related to acute intoxication, with another 19% related to alcohol withdrawal symptoms. There were also a large number of emergency department visits made for reasons other than drugs or alcohol (for example, an injury, pain or epilepsy) but that had a drug or alcohol related code noted on the chart. In total, **nearly 600 additional visits to emergency departments in Yukon for other reasons had alcohol or drugs noted as a possible contributing factor.**

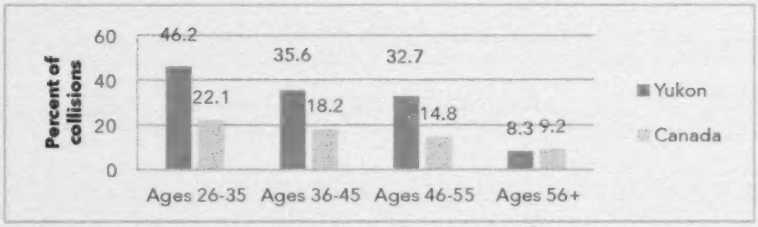
Injuries

Injuries are a common result of alcohol or other substance use. **From 2010/11 to 2014/15, there was an average of nearly 400 visits per year to the emergency department in Yukon for a injury among adults ages 25 and over where an alcohol or drug-related diagnosis was recorded** (the true number may be higher, as alcohol or other substances may not be detected or recorded). About 50% of these injuries were unintentional (with falls a common occurrence), about 28% were related to assault, and about 22% were for self-injury.[50]

Collisions

According to the Canadian Council of Motor Transport Administrators,[55] an estimated **31% of collisions that resulted in serious injury in Yukon between 2001 and 2010 involved alcohol**. This is nearly double the rate for Canada, where 17% of serious injury collisions were alcohol-related. Alcohol was especially likely to be a factor in collisions in which the driver was ages 26 to 35; nearly half of the serious collisions in Yukon for this age group were alcohol-related. During this same time period, **30 individuals in Yukon died in alcohol-related motor vehicle accidents.**

Figure 28: Serious Injury Collisions Related to Alcohol by Age, 2001-2010



Source: Canadian Council of Motor Vehicle Administrators [55]

Deaths

Coroners investigate deaths involving trauma or unexplained events. Of the 31 Yukon Coroner's inquest and inquiry reports investigating selected deaths from 2012 to 2015, 19 cases, or **just over 60%, identified the presence or chronic use of alcohol and/or illicit drugs**. For sixteen of those nineteen cases in which alcohol or drugs were identified, these substances were **considered a contributing factor to the death**. Among the causes of death identified for cases where alcohol or drugs were identified as contributing factors were motor and off-road vehicle accidents; hypothermia due to exposure; drug toxicity (multi- or morphine); other accidents; and infections and organ failures.

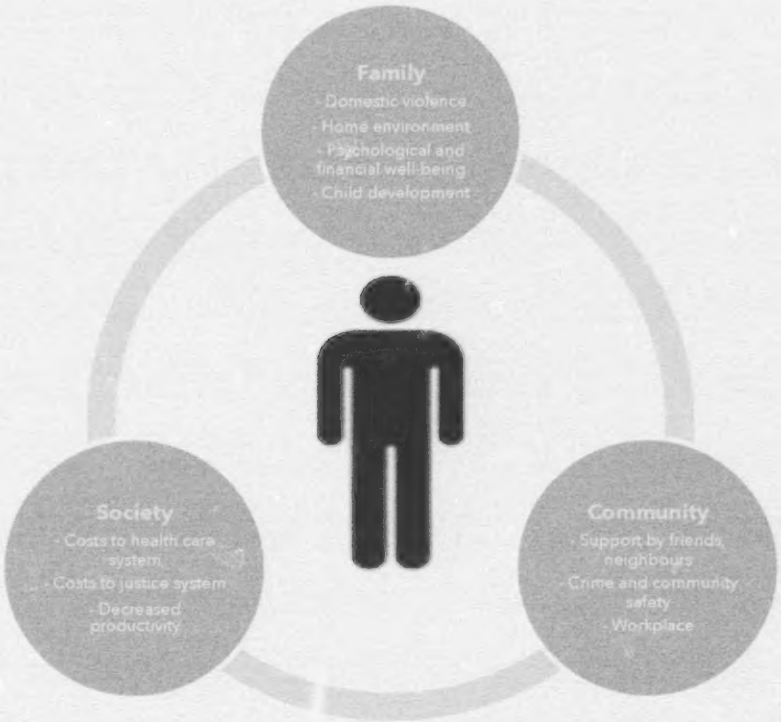
Table 8: Summary of Drug or Alcohol Involvement based on Reports of Yukon Coroner's Inquests and Inquiries

Inquiries / inquests	Number
Total	**31**
Deaths for which presence of alcohol or drugs was noted (or chronic alcohol abuse was cited as factor)	19
Alcohol with/without other substances as contributing factor	12
Other substances as contributing factor	4
Alcohol or drugs noted as contributing factor, or unclear	3
Deaths for which no alcohol or drugs were noted or detected (including 'undetermined' cases)	12

Source: Yukon Coroner's reports as published on November 10, 2015

Social and Economic Effects

Beyond the direct effects on physical and mental health and well-being, problematic substance use and addictions in adults may affect many other areas of life – from relationships, to employment, to interactions with the criminal justice system. These potential problems, in turn, may further exacerbate the adverse effects on health and well-being.



Crime and Violence

A possible consequence of substance use is involvement with the criminal justice system. Depending on the nature of the offence, this involvement could lead to imprisonment or fines, with potential implications for employment prospects, earnings potential, family well-being and more.

From 2005 to 2014, almost 600 drug or alcohol-related criminal code violations per year were reported by Yukon police, including impaired driving charges, driving while prohibited, or drug violations. Impaired driving accounted for nearly two-thirds of the total number violations, followed by drug possession and drug-trafficking. About half of the police-reported incidents led to charges (of either youth or adults),

with an average of nearly 310 adults charged annually over this period. Overall, **the rate of adults charged with these violations in Yukon was about 2.5 times the national rate**.[63]

Table 9: Crime Statistics for Drug and Alcohol-Related Violations in Yukon, 2005-2014

	Average number of incidents annually	Average number of adults charged annually
Total - Impaired driving, driving while prohibited, and drug violations	587	307
Impaired driving	372	201
Driving while prohibited	21	17
Drug possession	117	45
Drug trafficking, production or distribution	77	44

Source: Statistics Canada (2015)[63]

A number of data sources also point to a connection between alcohol or substance use and other crimes, such as assault, sexual assault, murder, robbery or theft, and breaking and entering. According to federal inmate data collected during the mid-1990s, more than 40% of Canadian inmates indicated that their crimes were associated with intoxication or addiction (or both).[69]

Respondents to a 2009 survey on criminal victimization in the territories reported that 78% of violent incidents were related to the offender's drug or alcohol use. However, the data also suggested a connection between violent crime and drug or alcohol use by the victim. Respondents who reported having 5 or more drinks at least once in the past month or engaging in occasional or regular drug use had higher rates of violent victimization than those who did not report these behaviours. The same relationships were also noted in instances of domestic violence.[70]

The connection between alcohol/drug use and violence is complex, involving personal characteristics, the social and economic environment, and the effects of the substance(s). As with many themes presented in this report, drawing a simple causal connection between alcohol and drug use and violence (perpetration or victimization) is not possible. To fully understand and address substance-related violence, a multi-pronged approach is required.

Effects on Families and Communities

Among respondents to the 2005 Yukon Addictions Survey, **46% of the general population indicated they had experienced at least one harm in the last year as a result of another person's drinking or drug use**, including verbal abuse, being insulted or harassed, family problems, arguments, and being pushed or shoved.

Although some children seem to show remarkable resilience, **a parent with a substance use problem can have profound effects on the development and well-being of his or her child**. Children of those who abuse substances are at increased risk of developing negative health outcomes and behaviours, in ways that can be described as internalized (stress, anxiety, depression and substance use) or externalized (school attendance problems, aggression, substance use). Children of those who abuse substances may also be more at risk of abuse or neglect.

Strained relationships may develop among family members affected by substance abuse, **who are themselves at risk of experiencing chronic stress, anger, hopelessness or other psychological harms.** There may be a mutually-reinforcing relationship between strained relationships and substance abuse, whereby the substance is used to cope with relationship problems, though it consequently exacerbates those problems. The family might experience economic challenges as a result of the cost of the substance use, reduced earning potential of the person with the disorder, and potential treatment and/or legal costs. As noted earlier, substance abuse also seems to be linked to an increased risk of domestic violence.

Substance abuse problems often spill outside of the home, affecting neighbourhoods, communities, and other shared environments (such as schools) as they take on additional responsibilities to support the family of the individual(s) with substance use disorders.[71, 72] In this way, **a small number of cases in the territory can have an effect on a large number of Yukon residents who care for, live with, work with or share a community with a person with substance abuse problems.**

Workplace and Economic Effects

Within the workplace, employees with substance use disorders may have **reduced quality of work, greater absenteeism, and an increased propensity for accidents.** For co-workers who have to take on additional work, this may result in stress, resentment and reduced morale.[73]

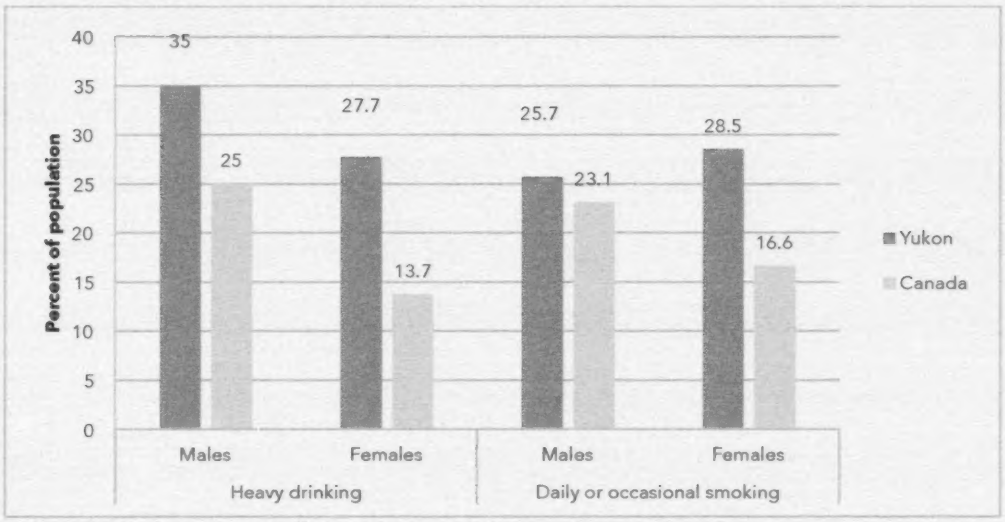
Larger economic impacts can also be seen on the local, regional and even national economy. Based on a 2002 report published by the Canadian Centre on Substance Abuse, the direct and indirect costs associated with substance abuse in Canada totaled more than $39 billion annually as of 2002. Adjusted for inflation, this would be equivalent to just under $50 billion in 2014 dollars. **The annual costs of substance abuse for Yukon specifically in 2002, were estimated at $43 million, or $1,449 per capita. In 2014 dollars, this would be equivalent to $54 million,** though this adjusted figure does not account for population growth, shifts in demographics or changes in population behaviour.[74, 75]

Substance Use and Women: A Closer Look

We've already seen some data relevant to substance abuse among women in discussions of substance use in pregnancy and among adults in general. A more focused look at substance use and addictions among women is worthwhile, however, given that women experience different–and often more severe–effects than men.

Internationally and across Canada, there is a gender gap in terms of consumption of tobacco, alcohol and illicit substances, with a higher proportion of men than women engaging in these activities. However, the gap between women and men in Yukon appears to be smaller than national gaps, at least for tobacco and alcohol. In fact, based on self-reported data from 2013/14, Yukon women ages 20 and over may have been slightly more likely to smoke daily or occasionally than Yukon men in this age range. These figures, shown in Figure 29, contrast with national data, which show men ages 20 and over to be more likely to smoke than women.

Figure 29: Population Ages 20 and Over Reporting Smoking or Heaving Drinking by Gender, 2012-14



Source: Statistics Canada (2015)[60]

While men have traditionally consumed more alcohol than women, females may be catching up in Canada. An analysis of Canadian data from 2003 to 2009/10 showed no statistically significant change in risky drinking patterns for males ages 15 and over during that time period, while there was a significant increase for women over the same time frame.[76] Improvements in women's economic status and increased levels of marketing towards women may play a role in this change in women's drinking behavior.[77]

In Yukon, the gap between adult males and females in terms of heavy drinking has been smaller than the national gap - with higher levels of heavy drinking for both males and females in

Yukon. As shown in Figure 29, more than one quarter of females ages 20 and over in Yukon reported heavy drinking at least monthly in 2013/14, compared to fewer than 15% of Canadian females.

In terms of drug use, less information is known about how Yukon women compare to Yukon men. The 2005 Yukon Addictions Survey reported a higher level of past-year cannabis consumption among men than women, at 63% among Yukon males in the general population compared to 37% of females.

Table 10: Population Reporting Ever Using Selected Drugs in Canada, 2012

	Percent of Males ages 15 and over	Percent of Female ages 15 and over
Cannabis	47.9	35.5
Cocaine/crack	9.9	4.7
Speed	5.7	2.5
Hallucinogens	16.6	8.6
Ecstasy	5.6	3.2
Any drug (illicit drugs; abuse of painkillers, stimulants, sedatives)	49.8	37.0

Source: Health Canada (2014) [78]

Women may be more susceptible to the effects of both consumption and chronic use of alcohol and other substances, facing more severe physical harms than men and experiencing those harms more quickly.

With lower levels of the enzyme responsible for breaking down alcohol (gastric dehydrogenase), more body fat, and a lower volume of body water compared to men, women are generally more susceptible to intoxication than men, even where body weights are equal. These differences in body composition and processing ability may also explain why women seem to experience long-term harms at lower levels of lifetime alcohol consumption than men. The U.S. Centre for Substance Abuse Treatment identified a number of physiological harms for which risk is higher for women than men, and those for which risk is predominately relevant to women.[79] These include liver and other gastrointestinal disorders; cardiac-related conditions; malnutrition; reproductive consequences (e.g. fertility, birth outcomes); breast and other cancers; osteoporosis; cognitive/neurological effects (e.g. dementia, brain shrinkage); and infections. Less is known about how the physiological effects of drug use may differ by gender.

For tobacco use, the consequences are largely similar to those experienced by men, though like alcohol, evidence suggests that women may experience harms at lower levels of lifetime consumption than men.[80]

Social and family effects among women

Financial, inter-personal, and other social problems related to substance abuse and addictions are not unique to women. However, some harms may be particularly relevant to the current context of women in Canada.

Women are more likely to be victims of spousal violence than men, and as described above, heavy drinking on the part of either party seems to be associated with higher spousal violence rates. With greater vulnerability to intoxication, women who drink heavily may also be at greater risk of sexual violence and trauma. This ongoing risk of trauma may perpetuate and exacerbate the cycle of substance abuse and dependence for women.[81]

In situations where a link exists between a mother's substance abuse and maltreatment of her children, mothers may avoid seeking and receiving appropriate care in fear of losing custody of their children if they admit to having a problem. (This is notwithstanding provisions in the 2008 Child and Family Services Act where children can be placed in voluntary and extended family arrangements rather than in foster care or custody.) Where a mother is the primary caregiver, residential addictions treatment–if deemed the appropriate mode of treatment–may be challenging to access, since alternate child care arrangements may be needed for an extended period of time.

Generally, there may be increased stigma associated with substance use and abuse among women, perhaps linked to women's real and perceived roles in families and society. In addition to serving as a barrier to accessing treatment, this stigma may compound feelings of shame, low self-confidence and/or depressed or anxious moods, which are cited as contributing factors to substance use by girls and women.[82]

Substance Use and Seniors

It is important to consider how substance use and abuse may affect seniors, especially with the growing size of our senior population.

The percentage of seniors who are daily or occasional smokers in Yukon estimated at more than 25%. This compares with a rate of less than 10% nationally. Similarly, seniors in Yukon are more likely to report monthly binge drinking than Canadian seniors in general, with an estimated 8.8% of Yukon seniors and 5.9% of Canadian seniors reporting this behaviour in 2013/14.[9, 60]

Even among seniors who drink lightly or moderately, the effects of alcohol may be more pronounced than they are in earlier adulthood. Since seniors generally have a reduced ability to metabolize alcohol, they tend to experience a higher blood alcohol content with the same level of consumption as younger people, and may experience greater effects on their organs, including the liver. Medication use among seniors is also a factor to consider, as many medications interact with alcohol.

Illicit drug use appears to be very uncommon among Yukon seniors, at likely less than 1%.[60] However, prescription drug misuse or dependence may be a more common problem. Seniors are more likely than the population as a whole to be prescribed pain medication–often opioid-based. Chronic pain may lead to increasing levels of use, sometimes resulting in dependence on these drugs.

Alcohol and substance misuse among seniors comes with an additional set of risks. The increased risk of injury (from falls or motor vehicle accidents, for example) for those under the influence of alcohol or other substances may be of particular concern to seniors, for whom the implications of injury may be more serious and long-term. Substance use and abuse can contribute to the risk of chronic disease, for which symptoms may worsen as one ages. When seniors visit the emergency room for alcohol or drug-related issues, they are more likely than other ages to wind up being admitted to hospital as a result. And finally, where substance abuse problems affect health and cognitive function, there is a risk that providers may misdiagnose symptoms as chronic conditions, potentially leading to inappropriate or ineffective treatment and management.[83]

The social circumstances of old age may contribute to alcohol and drug use among seniors. Isolation and loneliness, influenced by potential changes in employment status, loss of loved ones, and reduced mobility, are both noted as factors that may lead to harmful substance use (primarily drinking) among seniors.[84, 85]

Finally, it should be noted that risks to seniors from alcohol and drug use can originate from another source entirely: their caregivers. As highlighted by the World Health Organization (WHO), alcohol in particular has been linked to elder abuse through financial exploitation (of seniors by those with alcohol problems); neglect (when caregivers abuse alcohol and are not fulfilling their caregiving role); violence (with links between alcohol use and family violence) and other harms. According to WHO estimates from the U.S., 44% of male abusers of parents ages 60 and over and 14% of female abusers were dependent on alcohol or drugs. As well, the WHO suggests that abusive caregivers may encourage excessive drinking among the seniors themselves in order to more easily exploit or manipulate those seniors.[86]

Helping Yukoners to Manage, Cope With and Overcome Substance Abuse and Addictions

A quick look at the range of services offered for substance use and addictions in Yukon reveals that treatment continues to broaden from the previous individual sobriety-based philosophy. The recognition and incorporation of harm reduction principles, the provision of medical treatment for addictions, and a greater recognition of the prevalence and related needs of concurrent mental health disorders are among the changes evident in Yukon's landscape.

At the same time, there is growing recognition that problematic substance use is shaped by multiple early and ongoing life experiences, factors and conditions, suggesting the need for a broader approach to prevention. Supporting parents to provide nurturing family environments, providing high-quality early childhood programs and services, and creating a welcoming and cohesive school environment are some examples of the upstream approaches that communities can take to help prevent problematic substance use.

Box 3: Factors that may influence risk of developing substance use problems

- Early childhood development
- Parental/family substance use problems
- Poor parental/family attachment
- Parental abuse and neglect/monitoring
- Trauma
- Temperament and personality
- Instability at home
- School engagement
- Income/poverty
- Unemployment
- Mental health problems
- Social supports/isolation
- Changes in role/life transition
- Health challenges
- Community/social/physical environment
- Inequity
- Culture

A Harm Reduction Approach to Substance Abuse and Addictions

Over the past years, there has been a shift in the management of problematic substance use towards minimizing the associated harms, rather than exclusively focusing on eliminating the harmful behaviour itself. Harm reduction, as it is commonly known, comprises the set of policies, programs and interventions that seek to reduce or minimize the adverse health and social consequences of substance use without requiring an individual to discontinue drug use.[87] Harm reduction practices and programs are intended to reduce the risks of illness and injury for

those who abuse substances, while promoting greater inclusion and positive participation in society.

Considerations of evidence and the balance of costs and benefits–not only to the individuals in question, but to communities and society–play an important role in assessing the value and utility of harm reduction interventions. There is no simple formula to weigh short-term versus long-term risks or benefits, or financial costs versus social gains, making the careful evaluation of a given treatment, practice or program a challenging task for providers and for health or social systems.

A number of existing programs and practices currently provided in Yukon can be considered harm reduction activities, many of which are described below. The needle and equipment exchange services offered by Blood Ties Yukon and the Outreach Van, for example, aim to reduce the risk of infectious disease transmission for those who engage in injection drug use or crack use, while methadone treatment in the community and (as recently restored) at the Whitehorse Correctional Centre move persons with long-term opiate addiction towards a more managed form of substance use with lower risks and mortality. The recent change in rules at the Salvation Army more explicitly allows for intoxicated persons to receive emergency shelter, whereas previously only sober or "mildly" intoxicated persons were admitted.

The binding thread in these services is that they result in decreased risk to the individual - and potentially others - without requiring abstinence from substance use or abuse.

Shifting Philosophies, Shifting Practices

Conversations about the nature of substance use and addictions, our underlying assumptions and attitudes, and emerging evidence and lessons learned from jurisdictions around the world are ongoing. Models of treatment that address or recognize risk factors and biological pathways of addiction require setting aside the view that problematic substance use is a personal or moral failure. While change may happen incrementally, the way we think about prevention, treatment, and even our cultural and regulatory context is likely to continually evolve over time.

Services for Substance Abuse and Addictions in Yukon: An Overview

A wide range of outpatient and residential services are available to Yukon residents who are facing challenges with substance use. While many of these services are concentrated in Whitehorse, some are available in rural communities as well.

1. **Primary Care Providers.** General practice physicians and primary care nurses are often the first point of contact for a variety of issues faced by patients. Primary care providers can

provide a variety of interventions and treatments, from counselling to medication or referrals.

The advantages of primary care from family physicians or community nurses include an established relationship between the patient and the provider, the relative ease of access compared to what may be long waits for specialized care, and the skills primary care providers have in providing counselling and monitoring adherence to treatment. Primary care providers may also be aware of concurrent issues that need to be addressed for the patient, which supports a more integrated approach to addressing health and wellness needs.

For some clients, general guidance, appropriate medical support and the special relationship between patient and family doctor or community nurse may be all that is needed to start on the path to improvement and recovery.

2. **Alcohol and Drug Services (ADS), Government of Yukon Health and Social Services.** The Yukon Government provides the bulk of addictions services, offering a range of outpatient and residential programs in Whitehorse and across the territory, including:

   - *Counselling Services:* Individual, group, couple and family counselling sessions are available at the downtown Whitehorse facility and at three local high schools.
   - *Withdrawal Management Services:* Medically-supported services for persons who are withdrawing and recovering from substance abuse and dependence are available 24 hours a day, every day of the year, subject to bed availability.
   - *Inpatient Treatment Program:* Currently, a gender-specific, four-week inpatient program is offered nine times per year in Whitehorse for persons who need intensive, full-time support to address the underlying psychological, spiritual, behavioural and emotional aspects of their substance use issues. The program will change shortly however. With the completion of the new Sarah Steele building, ADS will move from fixed intake times to continuous intake. This allow ADS to more flexibly accommodate clients: adjusting the length of the program to suit a specific client's needs, and starting a client's programming as soon as a space becomes available, rather than waiting for the next scheduled four-week program. In addition, a new Youth Treatment Program is planned, targeting youth with complex needs such as concurrent disorders and those experiencing withdrawal.
   - *Community Addiction Program:* Community Addiction workers provide a range of prevention, education, screening and counselling services to all Yukon communities, with bases in Haines Junction, Watson Lake, Dawson City and Whitehorse.
   - *Methadone Program:* A methadone program is available in Whitehorse for people who are dependent on opioids. Patients receive care from a doctor or nurse, who prescribes methadone as an alternative to the opioid to which the patient is addicted.

3. **Services provided by Non-Profit Organizations.** The non-profit organizations whose mandates specifically include substance-related issues focus on harm reduction, advocacy and support, rather than directly treating or reducing substance abuse and addictions. Although NGO's have multiple funding sources, it should be noted that substantial funding for most of these organizations is through the Yukon Government. These organizations and their services include:

    - *Blood Ties Four Directions Yukon:* This society works with users on reducing the harms associated with substance abuse, such as the risk of infectious disease, overdose and homelessness. Blood Ties offers needle exchange and kits, reducing the risk of infection for those who engage in injection drug and/or crack use. They facilitate a drug user support group, which meets to discuss safer drug use practices and other themes of relevance. A housing navigator is available to assist clients who are looking for housing and/or facing housing challenges.

    - *Fetal Alcohol Syndrome Society Yukon (FASSY):* FASSY works to prevent FASD in Yukon and supports those who affected through a variety of educational, advocacy and outreach activities.

    - *Outreach Van:* The Outreach Van is operated as a partnership program by Many Rivers Counselling and Support Services, Blood Ties Four Directions Centre, Kwanlin Dün First Nation, and the Fetal Alcohol Syndrome Society Yukon (FASSY). It provides counselling, education and supplies in support of harm reduction for the most marginalized populations in Whitehorse.

4. **First Nations Services.** Many Yukon First Nations governments also offer some services, which may include support and treatment for addictions. Concern has been expressed by Yukon First Nations on service gaps and difficulties accessing treatment for substance use problems and addictions. Indeed, service gaps are recognized across the system, although difficulties in access for First Nation individuals are compounded by cultural barriers as well as the complexities of financing treatment above and beyond core insured services. The most comprehensive health and social services offered by Yukon First Nations are those delivered by Kwanlin Dün, the largest First Nation in Yukon, located in the urban setting of Whitehorse. Through the Health Centre and Jackson Lake Healing Centre, citizens may access a range of supports for addictions and related wellness needs.

    - *Kwanlin Dün Health Centre:* Kwanlin Dün First Nation offers mental health and addictions counselling services to its citizens at the First Nation's Health Centre. Services offered by Kwanlin Dün are rooted in First Nations culture, offering a culturally safe access point for citizens of Kwanlin Dün First Nation.

    - *Jackson Lake Healing Centre:* Kwanlin Dün also delivers land-based healing programs at the Jackson Lake Healing Centre. The programming is designed for First Nations people, but is open to any Yukoner struggling with addictions. Programming is

intended to be holistic in nature, helping clients to address spiritual, emotional mental and physical needs, and to heal harms related to residential school, trauma, violence and loss, in addition to substance use and addictions. The centre incorporates traditional First Nations stories, teachings and ceremonies; land-based activities such as fishing and gathering; First Nations craft, art and tool making; clinical therapy and alternative healing approaches. Peers, families and community members are included in restorative justice, healing and community building activities, and aftercare is offered to participants to help support them as they reintegrate into daily life. The location of the centre, and the land-based nature of much of the programming offers a complement to the treatment offered by Yukon government.

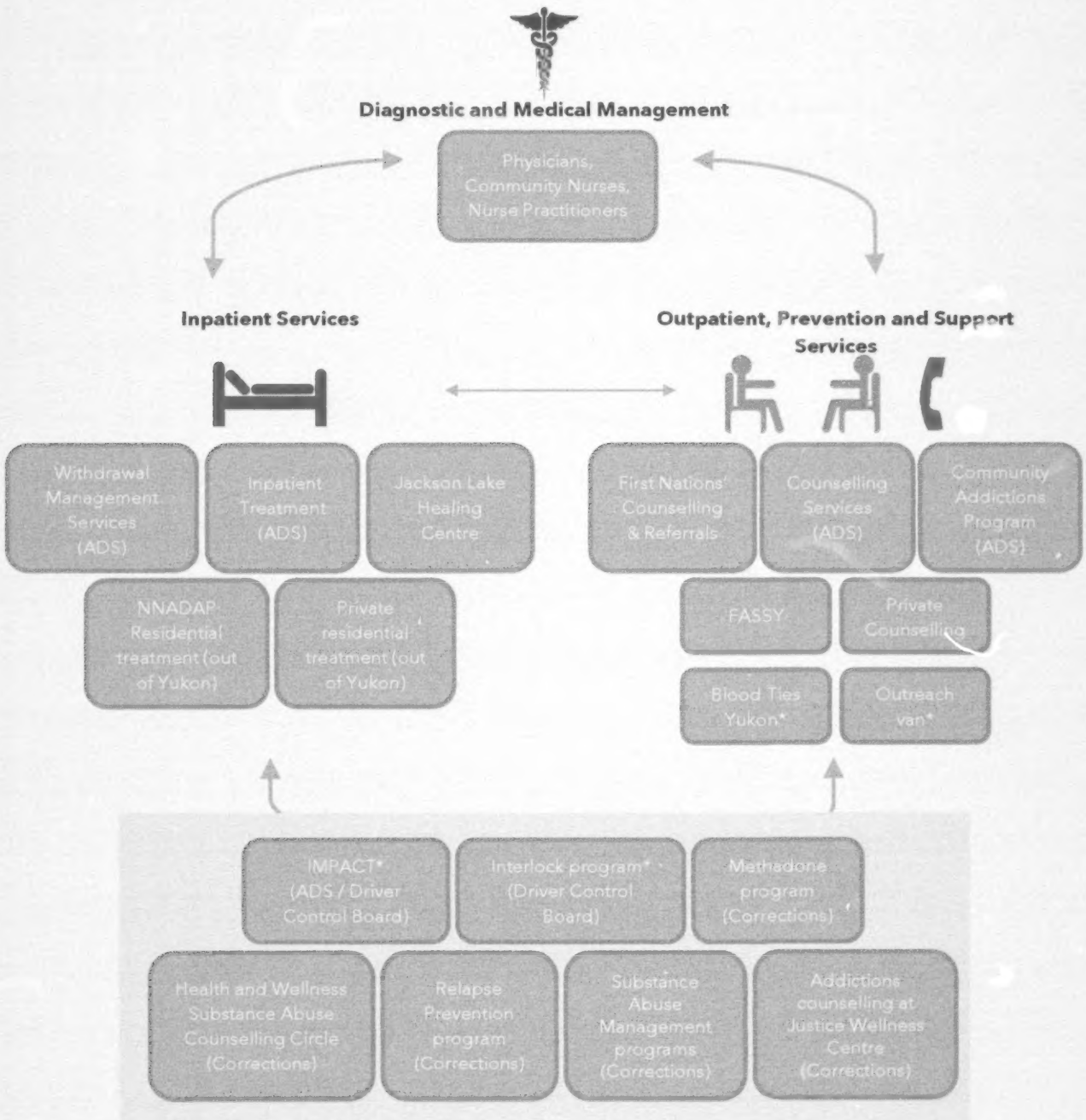
- *National Native Alcohol and Drug Abuse Program (NNADAP):* Through the National Native Alcohol and Drug Abuse Program (NNADAP), the federal government offers some support and funding to assist First Nations and Inuit communities in setting up and operating addictions programming - both community-based and residential. In Yukon, this funding is directed through First Nation governments (under their authority as self-governing entities, or in some cases, through contribution agreements). There is no NNADAP-supported residential treatment centre in Yukon, however, and while some support is offered to assist Yukon First Nations citizens in accessing residential treatment in the provinces, there are challenges in accessing this support - including the rules and parameters for qualification.[88]

5. **Programming through Correctional Services.** An estimated 90% of inmates in Yukon's correctional facility face substance use problems. Programs offered include Substance Abuse Management, Relapse Prevention, and the Health and Wellness Substance Abuse counselling circle, as well as the recently reintroduced methadone program.

6. **Private Services.** Private counselling services are available in Whitehorse, and private residential treatment services are available outside of the territory. Although private services help in reducing demand for public services, they also create two tiers of access - to different providers; different wait times; and different modes, duration, frequency and setting of services.

7. **Other Programs.** Other programs support individuals with managing the indirect impacts of substance misuse. Alcohol and Drug Services offer *Information and Motivation for Positive Action and Choices Today* (IMPACT), an educational program for persons whose driver's license has been suspended for alcohol-related reasons, while the Driver Control Board of Yukon also offers programs to support individuals who have had their driver's license revoked.

Figure 30: Substance Abuse Prevention, Treatment, Support and Advocacy Services


Diagnostic and Medical Management
Physicians, Community Nurses, Nurse Practitioners
Inpatient Services
Outpatient, Prevention and Support Services
Withdrawal Management Services (ADS)
Inpatient Treatment (ADS)
Jackson Lake Healing Centre
NNADAP Residential treatment (out of Yukon)
Private residential treatment (out of Yukon)
First Nations' Counselling & Referrals
Counselling Services (ADS)
Community Addictions Program (ADS)
FASSY
Private Counselling
Blood Ties Yukon*
Outreach van*
IMPACT* (ADS / Driver Control Board)
Interlock program* (Driver Control Board)
Methadone program (Corrections)
Health and Wellness Substance Abuse Counselling Circle (Corrections)
Relapse Prevention program (Corrections)
Substance Abuse Management programs (Corrections)
Addictions counselling at Justice Wellness Centre (Corrections)

*Primarily harm reduction

Conclusions

In order to have an informed and intelligent discussion about a problem, we first need to know all the facts. This is particularly true of an issue as complex as substance use in Yukon. In this report, I have tried to bring many different sources of information together to paint a comprehensive picture of alcohol, tobacco, and drug use in Yukon. Starting with common definitions, we reviewed the biology of addictions and harmful substance use; examined what we know about consumption patterns in Yukon; shed some light on First Nations perspectives around substance use; explored the impacts of alcohol, tobacco, and other substances through the lifespan; and ended with a look at both current and future services. We have covered a lot of ground; yet despite the length of this report, there is still much more information that could have been included.

As we have learned, the picture of substance use in Yukon is far from reassuring. Although we may be encouraged by some trends, such as the decreasing rates of injury, the slowly declining rates of tobacco usage, or by apparent behaviour changes amongst youth, there are still many causes for concern, especially when we see the varied impacts of alcohol throughout the lifespan.

Services for substance use and addiction in Yukon have improved and will continue to improve in the near future with the expansion of the territory's Alcohol and Drug Services. But there is still work to be done and decisions that need to be made–about the "best" approach, about resource allocation, and about public policy–if we are to continue to stem the tide of alcohol, tobacco, and drug-related damage to our population.

In the 2015 report on the State of Alcohol Consumption in Canada, the Chief Public Health Officer made the following closing remarks: "I suggest Canadians and our institutions take a closer look at our current approach and reflect if we are doing enough to reduce the harms associated with drinking alcohol." [42]

Are we doing enough? Clearly given the magnitude of the issues we describe in our report, there is more to be done. Keep in mind that a decision to maintain the status quo, to do nothing more than we are already doing, is also a decision. We can't afford not to examine all options seriously. In the next section I will identify a number of ideas for moving forward.

Recommendations from the CMOH

Effective Prevention Through the Life Span

Begin at the beginning

In this report I point out the vulnerability of the developing brain in utero, in early childhood, and in adolescence and young adulthood. In the 2012 Yukon health report* I challenged decision makers to consider and early child development strategy: and the challenge still stands. Yukon's 2014 Wellness Plan† lists many ways in which we can optimize the first months and years of life, particularly for families at risk due to challenges posed by socioeconomic conditions, mental illness or addictions.

Listen to our youth

Whether we learn about youth behaviours from survey information or whether we listen to youth telling their stories, we know that young people in Yukon face many challenges in mental health and well-being. To meet these challenges, we need a more in-depth understanding of the issues and we need better ways of connecting with our youth to create solutions. I believe that the experts here are our young people. By inviting youth to the table, and combining their passion and intelligence with the best science, we can move our young people to healthier transitions into adulthood.

Promote healthier choices

Yukoners need the facts on substance use and should have easy access to resources. We need to make sure that the latest information available on alcohol, tobacco and drug-related harms–balanced with any potential benefits–is readily available and becomes familiar to consumers. Promotion of low risk drinking guidelines is one example to increase awareness of safe limits of alcohol intake for most people.

Supportive Communities: Minimizing the Harm

Close the gaps in homes and housing

The Yukon Government has invested substantially in expanded housing options for those disadvantaged economically or socially. A Housing First policy could be an additional tool. With a Housing First approach, housing is provided upfront with no preconditions for sobriety or abstinence from substance use, and the additional services needed by clients are provided after a home is established.[89] The initiative has shown success across North America as a tool to support vulnerable people affected with addictions and mental health challenges. In Yukon, exploring a Housing First approach could be a wise investment.

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* http://www.hss.gov.yk.ca/pdf/health_status_report_2012.pdf

† http://www.yukonwellness.ca/wellnessplan.php

Continue to support harm reduction policies

As described earlier in this report, Yukon is no stranger to organized harm reduction activities. Some policies worth exploring in addition to existing services are:

- **Take-home Naxolone.** Health Canada is currently proposing a change to Naloxone's prescription status so that this drug can be available without a prescription for use in narcotic overdoses occurring outside a hospital setting. If approved, this change will require a local implementation plan which should greatly improve access to this life-saving drug.
- **Consider a managed alcohol programs (MAP).** For marginalized citizens who are not ready or suited for sobriety or self-management, MAPs provide controlled access to alcohol in a supervised environment in order to control usage and to prevent use of hazardous substances such as non-beverage alcohol (including alcoholized mouthwash or hand sanitizer). A number of MAPs are in operation across the country, with some reporting measures of success in terms of housing stability, reductions in alcohol-related harms, interactions with police and use of hospital or medical withdrawal services.[90] An MAP deserves serious consideration in Yukon as part of the harm reduction package.

Substance-Specific Recommendations

Alcohol policy

There are many policies addressing alcohol availability and consumption that deserve study for their potential application in Yukon[91] including the following examples.

- **Examine strategic pricing.** Setting a minimum price for alcoholic beverages has been used with success in other jurisdictions, such as BC and Saskatchewan. Evidence suggests that placing a minimum price on bottom-end beverages (such as cooking sherry) decreases consumption as well as some of the harms associated with excess drinking. I suggest that the Yukon Government adopt a pricing scheme suitable for Yukon, with the intent of introducing barriers to easy access to cheap sources of alcohol. At the same time, deliberate evaluation for any unintended consequences (such as diversion of alcohol drinkers to other mind-altering substances, or spending scant income on more expensive alcohol) should be undertaken in parallel to ensure an ultimate net benefit to Yukoners.
- **Study the use of health warning labels.** Food labelling is now standard, yet labeling the contents–whether alcohol or calories–of alcoholic beverages is still in the earliest stages. There is literature and growing experience to support this approach.[92, 93] Determining an effective way to provide easy to read information on alcohol content for drink containers or at point of sale should be evaluated for feasibility as well as possible unintended consequences.

- **Secure the supply and distribution of alcohol.** The ways in which alcohol is managed and distributed has a strong influence on consumption. For example, wide-open, free markets appear to encourage consumption, by virtue of easy availability, while prohibition has a paradoxically similar effect by opening the door for illicit distribution systems. Continued government oversight of alcohol distribution is crucial–to allow for implementation of pricing policies and health warnings, as noted above – and ultimately for having the best chance to regulate and moderate consumption.
- **Serve alcohol responsibly.** The Yukon Liquor Corporation currently offers the Liquor Service Training Program (BARS),[94] which provides education on server responsibilities, recognizing intoxication, and intoxication prevention techniques, among other strategies to minimize harm from clients over-drinking in establishments. Other jurisdictions gone one step further with programs that educate servers and others on their legal responsibilities when serving alcohol. Although the evidence to support such practices in decreasing harmful drinking is not strong[95], the benefits of such a program in promoting consistency of service, public awareness and leadership in responsible alcohol use merit serious consideration of such an approach.

Drug policy reform

The use of illicit drugs causes harm not only from direct usage but also from consequences of prohibition and criminalization. Criminalizing drug usage means that we have little control over its distribution, content or pricing, and no ability to access tax revenue to compensate in some way for the associated harms. As a starting point, we are currently seeing federal progress toward realizing marijuana legalization and regulation. Yukon should prepare for and support marijuana legalization while keeping public health goals foremost.

Prescription drugs: document, prescribe safely, and champion reform

Prescription drug abuse is sadly underrepresented in this report, hidden as it is from most data sources, even while anecdotally we know that this is a serious problem. There are many facets that can be addressed. The first is to better document the extent of the problem. Yukon's soon to arrive drug information system should help with this as well as alleviate the problem to some extent at client level. The second is to actively promote safe prescribing practices amongst our primary care practitioners, including limiting the use of narcotic drugs for non-acute, non-cancer pain. The third is for Yukon government to advocate for reforms that may lie with medical colleges, educational institutions, industry, and federal bodies.

Tobacco: step up the pace, close the gaps

As shown in this report, Yukon has high rates of tobacco use and also of tobacco-associated chronic diseases, such as COPD and lung cancer. Are we doing enough in tobacco control? A comprehensive analysis of the activities we are currently engaged in is needed in order to fully answer that question. We cannot assume that the recent decline in tobacco use will necessarily sustain itself, or is enough to control the increasing burden of tobacco-associated chronic disease.

Improvements in Client Services

Enhance community-based care and aftercare

Community-based care and aftercare is critical for clients who may be unwilling or unable to leave their home community. Additionally, the ability of clients to remain close to family and other social supports may facilitate longer-term maintenance of progress and can provide the support needed when transitioning back into the home environment. We must monitor the effectiveness of the recent deployment of community addictions workers by Alcohol and Drug Services96 as well as find ways to increase the skills of other community-based providers (e.g. community nurses, First Nations health and social workers) in addictions support and aftercare.

Enhance the role of primary care providers

There are a number of ways to improve the capacity of primary care practitioners to recognize and manage substance use disorders. These include promoting the use of best-practice resources in screening and brief interventions as well as providing organized, accredited educational sessions. Opportunities also be identified where primary care providers to interact with colleagues in Community Mental Health and Alcohol and Drug Services, in order to improve referral pathways and efficient access to community resources.

Integrate related and overlapping services

Clients with concurrent mental health and substance use disorders may face difficulties in receiving comprehensive treatment. The integration of addictions services and mental health services could be an important means to address this challenge. Integrated treatment has been shown to be effective for improving continuity and quality of care.[97, 98]

Yukon's Alcohol and Drug Services have made steps to equipping their counsellors to recognize and manage mental health needs, while nurses, social workers, and home care workers throughout the Department of Health and Social Services are similarly being trained to better support those with addictions. Opportunities for integrating service delivery in Yukon between addictions and mental health services should continue to be examined, as well as integrated case management in other areas as appropriate.

Match services to need

The expansion of client services will always be desirable and arguable, as long as there is an increasing number of people who require support for problems associated with addictions and mental health. However, the only way to counter a perpetual need to expand services is to make headway in those areas that address prevention, harm reduction, and societal or policy changes that ultimately lead to a reduction in substance misuse and abuse.

An Approach That Works for First Nations

Keep treatment culturally safe

The First Nations Regional Survey report points out the need for access to culturally relevant treatment and for programming adapted to First Nations needs and priorities; and the need for everyone, whether at the front line of service or in positions to advise on policy, to appreciate the history and to address the intergenerational effects of Indian Residential Schools.

Support land-based treatment

As described earlier, Jackson Lake Healing Centre provides substance abuse treatment in a natural setting and offers a combination of First Nations activities, clinical therapy and alternative healing methods. While research on the effectiveness of land-based treatment is sparse, many clients have reported positive experiences, with some showing longer-term success. Discussions regarding possible expansion of land-based treatment options would best be guided by Yukon First Nations.

Listen to the story and history of First Nations

Supporting First Nations in telling their own story is a critical step. The more that we understand, through deliberate learning, First Nations peoples' world views, cultures and histories, the more that we can identify with First Nations healing, and the better off we will all be in terms of healthy attitudes and behaviours around substance use.

Evaluation: Are We Making Progress?

How do we know if we are doing enough in terms of effective prevention and treatment? How do we measure progress and success? What does "success" actually mean in the context of substance abuse? These questions should continue to preoccupy us.

I will end this list of recommendations with an appeal: we must find a way to support the mundane but critical task of collecting, analyzing, interpreting, and communicating information. Information on prescription drug use, on consumption of other drugs and alcohol, and on detailed patterns of tobacco use, as well as specific effects of program changes and additions are all necessary so that we can know if the public money that we are spending to change systems or to change behaviour is being put to good use. This is of course needed not just for substance use, but for making sense of any health information in Yukon. Finally, evaluation needs to be followed by making changes driven by the best evidence that we can gather. Why measure at all, if we don't act on what we find?

I hope this report and its recommendations serve to increase awareness of the scope of the issues we face around substance use in Yukon; but more importantly, I hope it will stimulate discussion and action towards improving quality of life and health in Yukon.

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